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SEPTEMBER 1954

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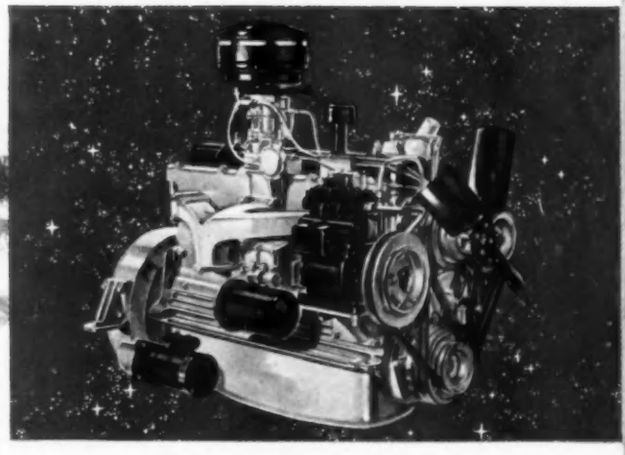
CCJ COMMERCIAL CAR JOURNAL

THE MAGAZINE FOR TRUCK AND BUS FLEET OPERATORS

World's most advanced engine...REO GOLD COMET runs cool



HERE'S WHY! Up to 1½ barrels per minute —a *lot* of water—flows both ways from mid-point through the *Gold Comet* engine block. And 14 separate nozzle jets spray cool water around all exhaust valves. Result: equalized, high thermal efficiency for long service life . . . for utmost operating economy.

Add to this the extra power REO *Gold Comets* deliver—their smaller size, lighter weight, easier maintenance. It's little wonder users call them the world's outstanding truck engines.

The engine weight saved with *Gold Comets* can often be added to payload. Less fuel saves money, always. In new trucks or old this modern power means greatest ton-mile earnings.

REO MOTORS, INC., LANSING 20, MICHIGAN

Write for "Horsepower Is Our Business," by W. N. Walworth, REO Chief Engineer and recognized engine authority.

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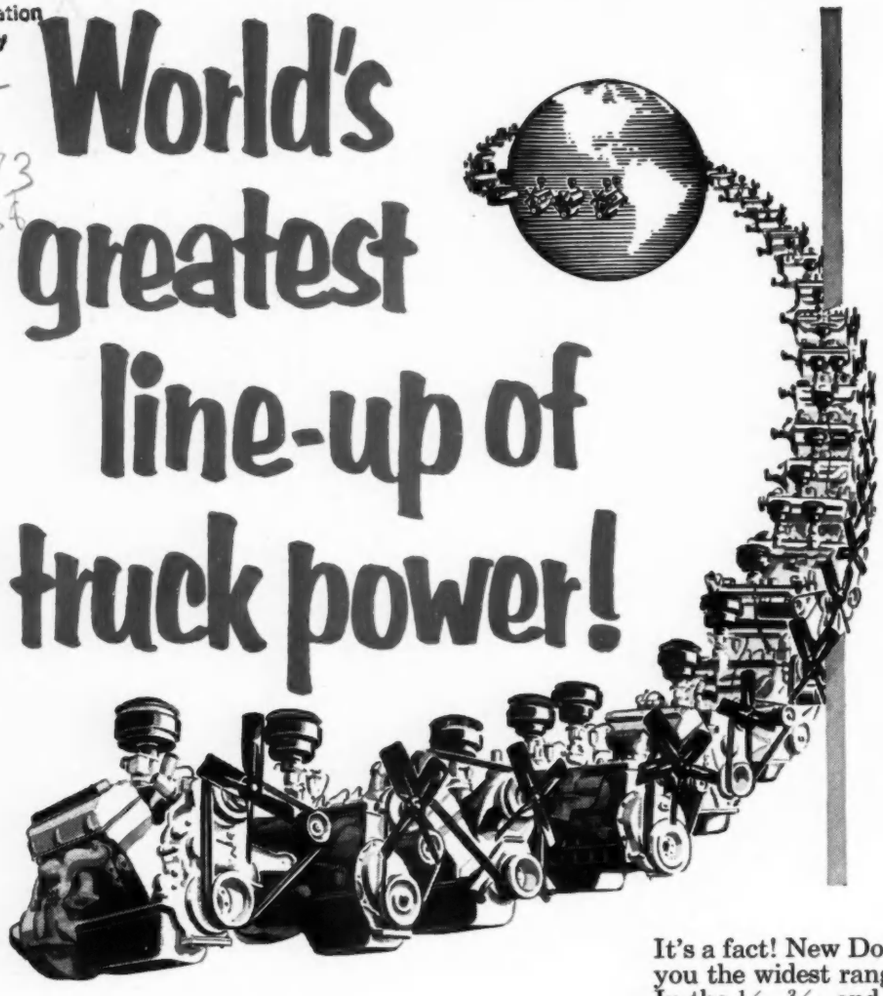
World's greatest line-up of truck power!



Including new

145-HP. POWER-DOME V-8 . . .

the world's most powerful, most modern low-tonnage truck engine!

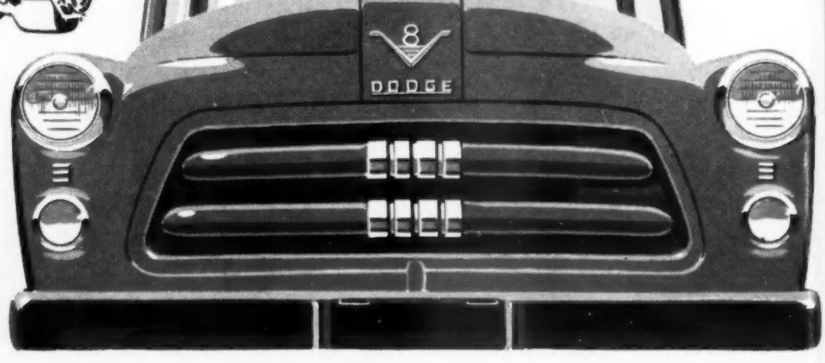
It's a fact! New Dodge "*Job-Rated*" trucks offer you the widest range of 6's and 8's in the field! In the ½-, ¾-, and 1-ton models you can choose a new 145-hp. Power-Dome V-8 or a thrifty time-tested 6! Throughout the entire line of Dodge trucks, there are six great engines . . . 12 horsepower ratings . . . 103 to 172 hp.! There's one "*Job-Rated*" to give you top economy, efficiency and performance in *your* work! Call or see your dependable Dodge truck dealer *today!*

Unequalled Power-Dome V-8's

Power-Dome V-8 combustion chambers develop more power, get more mileage from *non-premium* fuel, minimize power loss due to carbon. No other trucks offer you such engine efficiency!

Famous thrifty 6's, too

Twin carburetion is standard on key medium- and high-tonnage models. Stepped-up horsepower on many others. Dodge truck thrifty 6's give you famous dependability, long life!



ADDED PROOF
that there's a better deal for the man at the wheel
. . . with new

DODGE "Job-Rated" TRUCKS

Consolidated Edison Co. of N. Y. uses 100 Olson Aluminum Alloy Bodies

Good Looking Trucks
ADVERTISE YOUR STANDARDS

IN A DAY'S WORK, your trucks advertise you to thousands of customers and prospects. They reflect your standards and represent your service or products eloquently or unfavorably.

If they are dented, rusted or corroded, they suggest low standards.

If they are of good design and *free* from dents, corrosion and excessive deadweight, they are travelling advertisements of your quality standards and efficiency in busy areas and in restricted neighborhoods where money cannot buy billboard space.

The kind of impression they make on the public is decided *when you buy trucks.* Thin body metal is cheap but dents easily. Some body metals rust easily and corrode badly. Some delivery bodies are so heavy and cumbersome that they cost more than they're worth — in gasoline, tires and repetitious repairs — they reflect waste.

Aero-designed bodies by Grumman, with thick, lightweight, heat-treated Aluminum Alloy Panels, are distinctive in appearance. They dent less, corrode less . . . weigh about half as much as steel bodies . . . last longer . . . depreciate less . . . resell for more . . . put less strain on the engine and cooling system and are easier on tires, gasoline, brakes, clutches, springs, king pins and spindles. They are good advertisements of your high standards.

Olson Aluminum Alloy Bodies pay for themselves through savings. Their initial cost includes many features that are "extras" on other bodies. Truck users willingly pay more for Olson Bodies so as to spend less for operating and maintenance costs during the much longer life of these bodies that outlast the chassis and can be switched over to new chassis — in effect getting two bodies for the price of one.

Demand for Olson Aluminum Alloy Bodies is good — it has been a wonderful year. Ask your dealer at once about the economies of Olson Kurb-Side Bodies or write today for catalog.

OLSON KURB SIDE

ALUMINUM ALLOY BODIES BY *Grumman*

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AR JOURNAL

SEPTEMBER 1954 VOLUME LXXXVIII, No. 1

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There's No Such Thing As Normal Conditions In the Fleet Business

Even on long, hot climbs (like this famous "Seven Mile Grade" on U.S. #41) the BLUE STREAK ACC-560 Coil will always make the grade. This coil is especially designed for trucks and buses. Not only does it dissipate heat as fast as it is generated because of its aluminum housing and large horizontal fins, which expose the greatest possible cooling surface to the swirling air currents from the fan, but it actually heats up less than any other coils usually installed on trucks. The perfect balance between the electric and magnetic elements and the heavier gauge wire used in the winding enables it to deliver hotter sparks without high resistance. Pair this coil with the BLUE STREAK U-2000 super-sealed condenser and you've got a team that can mean the difference between making that grade and not. Standard Motor Products, Inc., 37-18 Northern Blvd., L. I. C. 1, N. Y.

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WITH

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HERE IS HOW YOU CAN HAVE LESS COST PER MILE

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The OVERLOAD

EDITORIAL COMMENT

War Or Peace? It's Up to the Railroads

PIGGY-BACK, now in a nationwide laboratory stage, is serious business. This is particularly true of that type tentatively okayed by the ICC, which permits railroads to haul freight in their own trailers and at motor carrier rates. We urge all readers to study Jack Colgan's factual report which begins on page 68; then appraise for themselves the possible effect on future truck business. Meanwhile, we have some ideas of our own.

Predictions are always dangerous, and subject to change. But they make life interesting. From where we sit, it appears that the railroads who plan to operate their own equipment are headed for serious trouble.

Why? Because the railroads offering this type of service are now competing directly with the truckers. History has proved that this is a mighty tough job and the cards for future hands are stacked.

The map on page 69 spells out the current situation. We didn't pick the colors by chance, but rather on our prediction of the "future" in ink. The railroads in red are carrying their own trailers . . . fighting the truckers. The railroads in black are hauling motor carrier trailers . . . cooperating with the truckers. And the whole thing is shaded in questionable pink. Which type of service stands the most chance of success?

First, we can look back. The New York, New Haven and Hartford RR has been piggy-backing since 1937. Carrying only the trailers of motor carriers, they moved 50,000 last year, as many as 225 on a single night. The Chicago Great Western and the Chicago & Eastern Illinois RRs have been doing all right, too, in the same type of service. The former has more than 40 truck lines using the service.

But one of the pioneers in hauling its own equipment is the Southern Pacific between Los Angeles and San Francisco. It's our understanding that a good night for the SP haul nets about 24 trailers . . . compared with about 500 out on the highway. (True enough the SP up to now has been operating on rail rates.)

Then we can look ahead. Flexibility holds the key. That's the one key word that's kept the truckers forging out in front. Even between major and distant terminals, the idea of fixed schedules is vanishing from the highway picture. When it's loaded it rolls . . . 24 hours a day.

Even the most optimistic of railroad proponents, admit that trailers-on-flat-cars can't be coupled to slow-moving freight trains. That means fixed and special schedules . . . probably one a day. So where does that leave flexibility? Forgotten, of course!

The pity of it is that "piggy-back" is a good idea. It has or had (depending on the viewpoint) a good chance of relieving congestion on a few major highways, and of making some honest cooperative dough for truckers and railroads alike. While we were among the first to urge caution in a rail-truck marriage, there is no denying that it has possibilities. And it still does for those who see the light in the right direction.

Let us hope that instead of a "whole new war" on our hands there is still time for a negotiated peace, that could, for once, be honorable and profitable to all.

Bart Rawson
Editor

THESE STATEMENTS by fleet operators (names on request) relate typical experiences. Users of *Texaco Marfak* and *Texaco Marfak Heavy Duty* everywhere enjoy similar outstanding benefits:

Says a 21-year User: "Our regular re-lube period is 2,000 miles. We never find any caking or washing out of *Texaco Marfak* and wear on chassis parts is virtually nil."

Says a 20-year User: "*Texaco Marfak* protects chassis parts for extra hundreds of miles between lube jobs, and our parts replacements are few and far between."

Says a 22-year User: "*Texaco Marfak Heavy Duty* never thins out. We re-lubricate every 30,000 miles and estimate we get between 150,000 and 175,000 miles of service from our wheel bearings."

Texaco Marfak is the famous chassis lubricant that won't pound or squeeze out of the bearings, that resists road splash and gives longer lasting protection against rust and wear.

Texaco Marfak Heavy Duty is the great wheel bearing lubricant that seals out dirt and moisture and seals itself in—assuring lasting protection and greater braking safety. No seasonal change is necessary.

TEXACO

TEXACO

At Your Service

TIMELY NOTES ON MAINTENANCE AND OPERATION

by MURRAY SIMKINS Managing Editor

Excessive Foaming: How to Control It

SUDS accompany most cleaning operations but they are not harmful or undesirable until they become excessive. Paint spray booths, some types of washing machines and other equipment are sometimes subject to excessive sudsing or foaming.

In some cases, excessive foaming can be controlled by making the proper mechanical adjustments to the machine. High pump pressures can cause excessive foaming and sometimes the pressure can be cut down without affecting cleaning results. Sometimes a pump is leaky, allowing air to be drawn in and, of course, is one of the quickest ways to get excessive suds. An open steam line in a solution will have the same effect. Where mechanical faults are the cause, they should by all means be corrected.

However, in some types of equipment and in some types of cleaning operations, solution splashing, high pump pressures or gassing of the work being cleaned are a necessary part of the operation or are characteristic of the equipment itself. In these cases the foam can be controlled by the use of special compounds available from your supplier.

Welders—Watch Those Cylinders

MANY welding operators according to Linde Air are not aware that practices which they have come to consider natural and normal in the course of electric welding operations are responsible for a large percentage of arc burned cylinders. One of the most common causes of arc burn is the simple practice of having an unprotected cylinder grounded near a welding circuit. Whether or not that cylinder is being used in the electric welding operation, it is liable to be burned simply because it is so close to a hot electrode. Sooner or later, the operator will accidentally strike the cylinder with an electrically hot electrode and damage it—perhaps beyond repair.

Cylinders may be arc burned because they have accidentally become part of the welding circuit. A cylinder may become part of the circuit in a number of ways. To be certain that the cylinders in your shop don't become part of the circuit, see that they are:

1. Free from contact with the worktable or a welding fixture.
2. Insulated from contact with a steel floor that is grounded or directed to the ground.
3. Not attached to any manifold system that is grounded.
4. Away from metallic walls or partitions.
5. Kept clear of girders or any structural members that are grounded.
6. Mounted away from the welding power supply.
7. At least six feet from workpiece.
8. Out of contact with the cable or defective insulation.
9. Not circuited to the workpiece through contact with carelessly placed scrap, extra workpieces, and the like.

Performance of Torque Converters

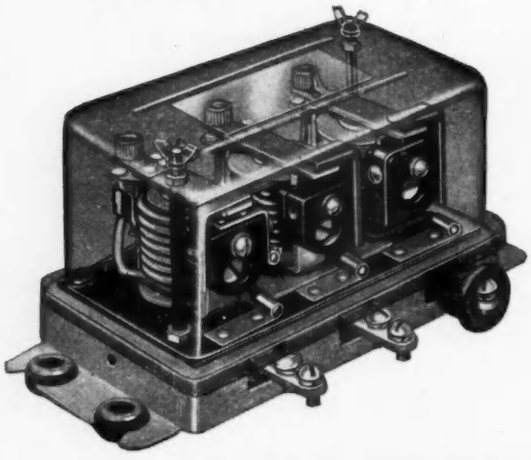
THE WEST COAST SAE meeting witnessed an interesting paper on the subject of Transmission Developments by R. M. Schafer, of the Allison Division of GMC. His comparison results of engine performance for mechanical and hydraulic torque converter drives bear emphasis here. In a controlled test, converter drives had approximately 47.5 per cent more engine life on off-highway operation and 50 per cent more engine life in on-highway operation than their respective mechanical drives.

The tests showed that converter drives had 9.1 to 13.2 per cent better fuel mileage than the

(TURN TO NEXT PAGE, PLEASE)

YOU CAN *CUT DOWNTIME* ON YOUR FLEET OF TRUCKS OR BUSES *with this . . .*

Leece-Neville



HEAVY-DUTY SERVICE REGULATOR

Figure it out for yourself . . . what does it cost you per hour when one of your vehicles has an electrical breakdown caused by the regulator?

The heavy-duty L-N Regulator is engineered and built to stand up and to protect the entire electrical system. Its double-contact design and rugged construction throughout insure longer, trouble-free life. If it ever does need servicing, parts are readily available and easily installed.

There is a Leece-Neville Heavy-Duty Service Regulator for any truck or bus, from 7 to 60 amps, 6 or 12 volt systems.

It will pay you to specify Leece-Neville Heavy Duty Service Regulators for replacement. For the "inside story" of Leece-Neville double contact design, write for Bulletin R-202 D.C. The Leece-Neville Company, Cleveland 14, Ohio. *Distributors in principal cities . . . Service Stations everywhere.*

YOU CAN RELY ON *Leece-Neville* REGULATORS

CCJ At Your Service

Continued from Page 9

mechanical drives. Here is the reason. Hydraulic drives required 12 to 3.7 per cent less engine revolutions per mile than the mechanical drives. In addition the converter unit provided a much better power factor where load variation was quite high. During one leg of the test, for example, there were 19 shifts required on a particular grade as compared to one shift by the converter truck. The converter drive was making 30 mph at the top of the grade, while the mechanical shift vehicle was making only 10 mph.

Your Inspector is an Important Man

IN HIS paper on "Can a Fleet be Over-Maintained," David Mikkleson, of Los Angeles-Seattle Motor Express, says, "Good preventive maintenance inspections performed by top grade mechanics with a maintenance program based on these inspections will prevent over-maintenance. In the future this program can be further developed by better equipment and inspection techniques." Mr. Mikkelson presented his paper at the SAE West Coast Meeting.

He continues: "We can set up sound preventive maintenance programs and print very good inspection forms but the key to the whole set-up is the inspector, himself. In any industry and in any problem we always get back to people. An inspection is only as good as the individual performing the actual work. All of us are inspectors in a sense and everyone in a transportation setup should be inspection minded and alert to report things he sees wrong with vehicles. The men who are of primary interest here are the mechanics who perform inspections. These men must be hand-picked and given special training. In other words, they must be developed for this particular job. The most important attributes for a good inspector are dependability, mental alertness and general mechanical knowledge and ability. Inspectors should be paid a good wage. The inspector performing major inspections should receive as much pay as any other top-grade mechanic. Do not hesitate to spend man hours and money on an inspection system. If done properly, it will pay dividends by decreasing overhaul and repair expenses as well as reducing lost time in the shop."

(TURN TO PAGE 12, PLEASE)

This time, you got more than you bargained for!

DON'T look so worried, Mr. Jones—this is *good* news—and most of your drivers have been enjoying it for months!

You were right when you figured full-depth AIRFOAM cushioned seats in all new trucks would save money. You've been getting 150,000 miles and more without seat repairs or replacements!*

But look at these *special* records of a few little things you didn't bargain for:

Things like *better running time*—because of drivers' added zing and skill when they're really *comfortable*—and *stay* comfortable on the longest loops!

Not even the most rugged driver can do things so well the *hard* way—and since your boys have been driving on AIRFOAM—they've been more alert, more on-the-beam, more willing-and-able—and have been driving rings around the competition!

So here are the figures, Boss. They're your AIRFOAM *earnings* to add to your AIRFOAM savings!

*From actual on-the-job fleet records. If you'd like to see more of them, write Goodyear, Automotive Products Dept., Akron 16, Ohio.

AIRFOAM contains over half a million air cushions to each cubic inch! That's why AIRFOAM cushioned seats "breathe" with every motion—stay cool, fresh and buoyantly comfortable for the life of the truck!

Airfoam MADE ONLY BY GOODYEAR

THE WORLD'S FINEST CUSHIONING

Airfoam—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

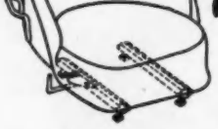
The Cushion Seat that STAYS ALIVE

Milsco MILWAUKEE

CONTOUR SEAT

SENIOR DELUXE NO. 1781

Always SMOOTH, BUOYANT, FULLY RESILIENT



FORE AND AFT ATTACHMENT OPTIONAL

Over roughest going, this deeply cushioned Milsco Contour Seat provides *sustained body support* and relaxing comfort. Heavy foam rubber padding — 4" in the seat and 2" in back and side walls — "cradles" the operator against jars and jolts. Here's a seat that *stays alive* under rigorous heavy duty service . . . always fully efficient, always smooth . . . comfortable. And for enduring exterior wear it's available in black genuine leather or black "Koroseal" coated duck — toughest materials for roughest jobs. The industry trend is toward cushion seating . . . and Milsco . . . cushion seats that stay alive . . . engineered to your job.

Sold Only to Manufacturers of Original Equipment.

Established 1924

Milsco MILWAUKEE **MILSCO MANUFACTURING CO.**
Dept. T, 2738 N. 33rd St., Milwaukee 45, Wis.

CCJ At Your Service

Continued from Page 10

Transmission Noises

FULLER'S "Transmission Topics" features an interesting study of some of these "noises" we hear or think we hear in the transmission. Actually some of the trouble may occur outside the transmission, the noise being telegraphed up the propeller shaft and into the transmission box which acts as a sounding board. Some of these noises may occur when:

1. The propeller shaft is out of static and dynamic balance;
2. Universal joints are worn;
3. Center bearings are loose or worn;
4. Axle pinion or ring gear have worn and pitted teeth;
5. Wheels are out of balance;
6. Spring pivot bearings are worn;
7. "U" bolts are loose;
8. Universal joint companion flanges have difference in angular velocity, caused by lack of parallelism between center line of transmission mainshaft and center line of axle pinion;
9. Clutch driven plates have lost dampening spring action, caused by set or fracture;
10. Torsional vibration occurs from circular deflections—or twist—in the crankshaft. Today's high-speed, high-compression engines are lighter in weight—have lighter crankshafts that twist back and forth similar to a thin, flexible ribbon of steel twisted circularly in the fingers. The movement, though slight, occurs very rapidly—and when transmitted through the flywheel and clutch, shows up as transmission vibration or gear rattle . . . because the operating back lash in the gear teeth is rapidly taken up first in one direction and then the other. Remedies: Torsional vibration in the mainshaft can be offset by turning slip joint one or two splines, or by altering the shaft angles. Often, a thorough engine tune-up will eliminate the trouble. However, the absolute remedy for torsional vibration is not, as yet, on the plane of an exact science.

Inside noises which do originate from the transmission can be caused by:

1. Gears out of round or eccentric with the center line of the shaft on which they are mounted. Improper cutting of teeth can cause

(TURN TO PAGE 14, PLEASE)

OUT OUR WAY BY J. R. WILLIAMS

OH, SAMMY-- NOT AGAIN!
THAT'S TH' THIRD TIME THIS MONTH TIRES HAVE FAILED ON THAT FAST NEW YORK MILK RUN! WHEN'S TH' BULL GOING TO WISE UP AND GET LEE SUPER DELUXE?
EXECUTIVE SUITE
J.R.WILLIAMS
T. M. REG. U. S. PAT. OFF.
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PLUS PERFORMANCE ON ANY ROAD

Lee Super DeLuxe Highway Tire with 31 advance-design features

Never before have all the features of the Lee Super DeLuxe Highway been combined in any single truck tire. They add up to increased original mileage — as much as 35% more — and to tremendous carcass strength.

Here is a tire that stubbornly resists wear and injury, that will take repeated recappings. It is treated with Lee's exclusive new Flexlok formula that increases cord adhesion by 300% and makes cord separation from the rubber bond practically impossible. Let the Lee Super DeLuxe Highway Truck Tire solve *your* over-the-road operating problems!

There's a LEE TIRE that's BEST for every trucking need

FREE!

8½" x 11" J. R. Williams color-cartoon shop posters . . . promoting correct truck-tire maintenance. You'll get a new one every month . . . order as many copies as you need.

Lee Rubber & Tire Corporation
Conshohocken, Pa.

Please send me each month for six months__copies of the current J. R. Williams tire-maintenance poster. Send also catalog information about Lee Tires for .....
(type of service)

Company_____
My name_____
Street_____
City_____ Zone_____ State_____

Please attach coupon to your company letterhead. 2J

LEE RUBBER & TIRE CORPORATION • CONSHOHOCKEN, PA.

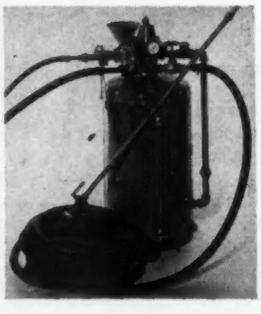
Worker spraying foam on large Knox Glass Bottle Co. truck. Note how detergent adheres to truck. Oakite No. 511 Foam Unit in foreground.

New Foam Unit SHAVES Truck-Washing Costs

For real speed and economy in washing their tractors and trailers, the Knox Glass Bottle Company uses the new Oakite No. 511 Foam Unit. The reasons are simple. They shave three hours a day off their fleet cleaning time . . . cut detergent consumption way down because there's no waste . . . their workmen like the ease and simplicity of the operation.

The Oakite No. 511 Unit operates on a principle of compressed air mixing with detergent solution. Using a 4 oz/gal solution of Oakite Composition No. 70, a heavy lather is generated and sprayed on the truck's surface. The lather covers the surface like a blanket . . . goes to work quickly and efficiently on the soils. A light brushing, if necessary, follows . . . then rinse. Trucks come out sparkling-clean. One man can wash even the biggest unit in a matter of minutes.

Why not contact your Oakite Representative today and arrange for a demonstration? He may be able to show you how to set up a really low-cost truck-washing operation in your yard. If you prefer, you can write direct to: Oakite Products, Inc., 26D Rector Street, New York 6, New York.



The Oakite No. 511 Foam Unit

SPECIALIZED INDUSTRIAL CLEANING

OAKITE

MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. and Canada

ccj At Your Service

Continued from Page 12

this, and so can improperly turned gear-blanks, or distortion in heat-treatment. Listen for a howl which occurs intermittently with each revolution of the shafts. Remedy: After identification of the gear or gears which cause the noise, replace them.

2. Burrs, bumps and swells on the operating gear teeth . . . usually caused by careless handling of finished gears. Listen for a knocking or thudding sound, which occurs intermittently at low shaft speeds as the damaged tooth engages those on the mating gear. Remedy: With a small hand grinder, remove the bumps, burrs and swells. They can be identified by highly polished spots on the bearing surface of the tooth.

3. Improperly machined gears, with poor tooth contact. Listen for a high-pitched howl or whine. The noise will be so intense and so frequent that it will definitely disturb the listener. Remedy: Examine each set of gears, to determine if the tooth bearing is uniform and spread evenly over the length of each tooth. Poor contact will show up in undue concentration of the polished surface at either corner of the gear. In crown-shaved gears, the bearing will be concentrated in the center of the tooth and will taper out at the ends. After careful identification, replace the offending gear or gears.

4. Misalignment between the countershaft, mainshaft and reverse idler shaft in the transmission case. Although shafts may be out of line through error in machining the case bores, more common causes are shafts sprung in service by application of shock load, or error introduced by welding cases which are cracked or broken through the bearing bores. Remedy: Replace either sprung shafts or the case, whichever is at fault.

5. Faulty and damaged bearings. If axial and/or radial clearance is insufficient, the sound is usually a high-pitched squeal. If balls are defective, or raceways are pitted and spalled, the sound is usually a knock or thud at low shaft speeds, similar to that from bumps and burrs on operating gear teeth. Remedy: Replace bearings. Note: Be sure the bearings are at fault before replacing them.

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FLEET

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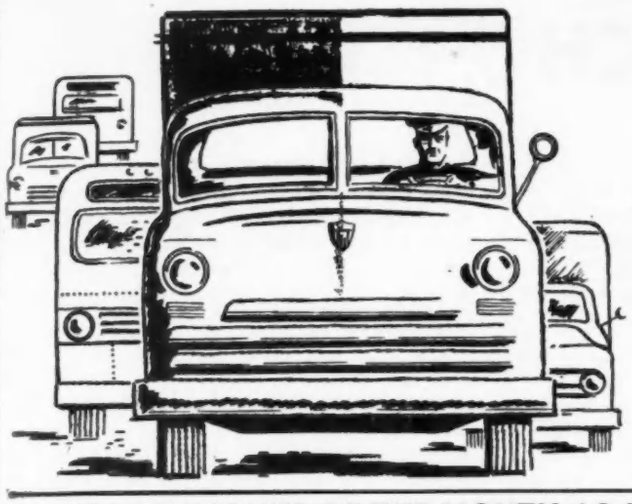
1954



UP FRONT with ccj

FLEET HIGHLIGHTS OF THE MONTH AS REPORTED BY COMMERCIAL CAR JOURNAL

MR. EXECUTIVE Business outlook for both private and for-hire carriers this fall is good, but tonnage probably won't equal 1953's record high. Gross national product—dollar value of goods and services produced—was at an annual rate of $356 billion for the second quarter of this year, about $200 million above the first quarter. Prediction was that the third quarter would be at least as good as the second. Low inventories at wholesale levels have led some manufacturers to predict delivery troubles in coming months. Construction, still running at a record high (Aug., page 17) is improving business for the household goods movers. A spot survey by the Wall Street Journal says that after a second quarter decline, HHG moving is running about 10 per cent ahead of a year ago. Aero-Mayflower says two-thirds of its business comes from companies moving people to new plant locations. While common carrier volume was estimated ahead of 1952's, it was not equaling 1953's — highest on record. Hardest hit were those carriers who based their financial planning on an expected increase this year. Note to steel haulers: Even with no increase in demand, present low inventories should cause volume to pick-up to replace steel currently being used.

PIGGY-BACK can go ahead. In a surprisingly short time after its June 28 hearings, the ICC issued a set of ground rules permitting most types of trailer-on-flatcar operation on Aug. 6. It includes OK for railroads to haul their own or leased trailers at motor carrier rates. A summary of the Commission's findings and viewpoints held by various carrier groups begins on page 68, this issue.

MORE HIGHWAYS are in the cards. Late last month Governor Kennon (La.), National Governors Conference chairman, said there was every prospect that a 10-year, $50 billion highway program (Aug., page 18) will be enacted into law early in 1955. A special committee of governors has talked it over with President Eisenhower and has sent a questionnaire to all 48 governors. Answers will be summarized into a final report in November to allow time to present it to Congress and to the various state legislatures come Jan., 1955.

RECIPROCITY INVESTIGATION by the House Interstate Commerce Committee staff is now underway. It follows Rules Committee refusal to OK HR 407, the Ayres Resolution (March, page 64). Rules Committee said Commerce Committee could conduct the investigation without passage of the resolution. Retaliatory and weight-distance taxes will be included in the study.

DETROIT DISPATCH

ATA HAS requested that turn signal wiring be included in trucks even if the signals are not factory installed. Some truck makers say it would be uneconomic. International and White already include it, and Ford puts it in larger models.

TRUCK MAKERS ARE changing. Middle of last month stockholders of Studebaker and Packard approved merger of the two companies to form Studebaker-Packard Corp. Present plans are to continue Studebaker truck production. Control of Four-Wheel Drive Auto Co. has passed to a Chicago group headed by B. W. Heineman. Diamond T and International have just concluded an agreement whereby International will supply Diamond T with gasoline engines, transmissions, some axle assemblies and service parts. Diamond T, in turn, will assemble certain specialized International trucks. Sales of both makes will remain separate and competitive. White and Mack have been discussing some kind of integration, but Mack terminated the talks late last month.

102-IN. BUMPER-TO-back-of-cab dimension did not last long as a minimum for conventional tractors. Mack is out with a new shorter contour-back cab model (page 98, this issue), and another maker has plans for a 95-in, unit for next year. White earlier announced a 96-in. tractor (June, page 84). All will pull a 35-ft trailer and still be within 45 ft overall length.

SMOG PROBLEM HAS also hit Philadelphia (Aug. page 180). Proposed regulation would require "fume-filter-

WASHINGTON RUNAROUND

TRIP-LEASING WAS one important item that Congress left behind when it adjourned middle of last month. HR 3203, the bill to permit trip-leasing, died in committee. It will have to be reintroduced in the next Congress if it is to become law. Speculation was that the ICC has written a report based on its Ex Parte MC-43 leasing hearings, will release its findings soon now that possibility of Congressional action is passed.

E. G. SIEDLE HAS been confirmed as Assistant Postmaster General, will be in charge of the Post Office's Bureau of Transportation. He was general traffic manager of Armstrong Cork Co., Lancaster, Pa.

P.O. DEPT. GENERAL AND district superintendents have a new, 18 point directive to guide them in procedure for converting mail hauls from rail to truck.

ARMED FORCES ARE cutting motor vehicle fleet sizes. Under the efficiency program started last September, the Army has dropped 5357 vehicles and the Navy 6000. By next June, the Navy hopes to drop 9000 to 11,000 more. The Air Force, in line with defense planning, has been expanding but has been able, through redistribution, to avoid purchase of 4730 vehicles. For a view of how the Army is further cutting motor vehicle costs, see page 90, this issue.

CHARLES L. DEARING HAS resigned as Deputy Undersecretary of Commerce for Transportation. There is some talk that the position will not be filled at present. Almost all the Department's transportation projects have been completed.

POSSIBLE ICC CHANGES affecting the Bureau of Motor Carriers (Aug., page 18), have prompted ATA to renew its opposition to "abolishing or further curtailing" the Bureau's functions.

REDEFINITION OF contract carriers as proposed by ATA's Contract Carrier Conference before the ICC met with opposition from ATA's Regular Common Carrier Conference and the Private Truck Council of America. Deadline for briefs in the case, Ex Parte

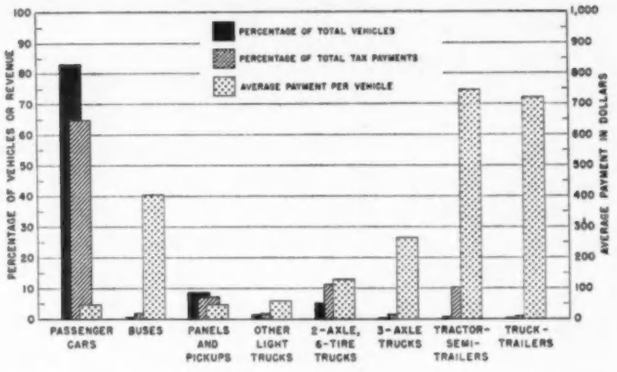
ing" devices on buses, taxis, other public passenger carrying vehicles. Fleetmen would pay the city $10 for inspection of each installation.

BROWN TRAILER WILL continue distribution, parts service and truck body output at its Toledo, Ohio, plant. Trailer manufacture will be transferred to Brown's Reading, Pa., and Spokane, Wash., plants.

FORD WILL HAVE separate truck engine production facilities next year. The engines will have a different displacement from those used in passenger cars. Idea is to get away from the concept that the truck engines are modified passenger car units.

DODGE HAS ADDED 300 outlets for Dodge trucks since May 1953.

TRUCK TAX FACTS



Following-up last month's "Truck Tax Facts," this chart, from the same BPR study, shows that while trucks represent a relatively small percentage of total vehicles, they pay (except for panels, pick-ups and other light trucks) considerably more per vehicle than do passenger cars, reaching almost 15 times as much, on the average, for tractor-semi combinations.

MC-46, was last month. The contract carriers want a stricter definition of a contract carrier, would let contract carriers not meeting the new definition convert to common carrier status without "proof of public convenience and necessity." Common carriers say this would "create unlimited competition" and would be "an injustice of gross magnitude." PTC says redefining would adversely affect definition of private carriage as ruled by the Supreme Court.

U. S. CHAMBER OF Commerce is sponsoring a series of Better Roads Conferences throughout the nation. First one is in Topeka, Kan., Sept. 30. Topics under discussion are President Eisenhower's $50 billion road program, tolls, federal-aid, financing. Final event will be a national Conference on Highway Finance in Washington, D. C.

TANK TRUCK TRUCK CARRIERS Board of Directors has OK'd a tank motor vehicle inspection form and a proposed casing-head and natural gasoline tank specification which has been submitted to the ICC. The conference will publish, this fall, a National Tank Truck Carriers Directory.

IN THIS ISSUE . . .

PIGGY-BACK This "progress report" includes the ICC decision, motor carrier viewpoints and a map and summary of railroads carrying trailers . . . page 68. McLean's proposed "piggy-boat" is temporarily mothballed . . . page 70.

TRANSIT BUS COSTS From ATA's regional meeting in Detroit, comes an argument for measuring costs in "dollars per hour" . . . page 72.

TIRES Special report summarizes three tire fire tests held this year . . . page 74. East Texas Motor Freight explains how tire care saves money . . . page 78.

DIESELS Tests show compression pressure is key to diesel efficiency . . . page 76. From the SAE West Coast meeting, here is a description of Cummins' new PT diesel fuel system . . . page 82.

NEW PRODUCTS Mack's "Macksimum" tractor pulls a 35-ft trailer with 45-ft overall length . . . page 98. Dodge introduces a new 145-hp, V-8 engine with 7.5 to 1 compression ratio . . . page 100.

TRUCKING NEWS Round-up of events includes digest of programs at three big coming fleet meetings . . . page 186.

The Road Ahead

HIGHWAY TRANSPORTATION DEVELOPMENTS WILL be reviewed by the nation's radio stations in a 15-minute radio program. Scripts for the show will be supplied without charge by Truck Trailer Manufacturers Assn. TTMA offered the material to 2700 stations in mid-August. Within a week, 131 stations from Maine to Florida, from the Atlantic Coast to Montana and Texas had accepted.

OVERSIZE AND OVERWEIGHT PERMITS FROM any of the 48 states may be as close as the nearest teletype when a plan now in operation in Pennsylvania, Missouri, Ohio, Wisconsin and Michigan is expanded. It started in Michigan where the Heavy Haulers set up the operation using Michigan Bell's teletype service to transmit requests directly to the state's highway department weighmaster. Permit is issued the same way. A standardized form with complete information has been adopted.

MINNESOTA WILL BE a weight-distance tax battleground in January. A legislative committee is studying a proposal to levy a weight-distance tax on heavy trucks and buses. State gasoline tax would be increased to 7¢ a gal and diesel fuel tax would have a 5¢ a gal added. Increase is expected to yield $38 million a year, help finance a proposed 20-year, $681 million highway program.

TRUCK TAIL LIGHTING IS being checked by a committee representing the Ohio, Pennsylvania, New York and New Jersey turnpikes. It is also reported that ICC's district office for Ohio, West Virginia and western Pennsylvania is gathering information on "unusual" turnpike accidents, including rear-end collisions for its Washington office.

THERE ARE MORE turnpikes ahead, too. Out in Kansas, the state's supreme court has held constitutional the law authorizing a 234-mile, $140 million turnpike system in that state. Studies are expected to be completed for five toll highways in Illinois in November. Total mileage is 465 at an estimated cost of $583 million. Iowa's Highway Commission has recommended that the state legislature authorize an east-west, cross-state, 297-mile toll road at an estimated cost of $180 million. It was reported that New York's Thruway took in revenue during its first full month of operation (July) at an annual rate of over $3 million. This was on the Rochester-Utica link that opened in June. Scheduled to open late last month, was the Rochester-Buffalo link.

JUNE NEW TRUCK REGISTRATIONS, trailer shipments and replacement tire shipments were the highest monthly figures reported so far this year. Both registrations and truck factory sales were ahead of June, 1953. Total bus factory sales for the first six months of this year are almost 500 ahead of the first half, 1953. Details below:

In thousands of units, except bus sales are in actual numbers	New Truck Registrations		Truck Factory Sales—Domestic		Truck Trailer Shipments		Bus Factory Sales—Domestic		Truck and Bus Tires				
									Replacement Shipments		Original Equip. Shipments		Inventory End of June
	June	6 Months	June	6 Months	June	6 Months	June	6 Months	June	6 Months	June	6 Months	
1954	85.9	433.5	74.3	468.6	5.1	27.9	349	1915	703.2	3890.6	302.5	1979.6	2895.2
1953	77.2	475.6	66.1	569.4	9.6	45.1	359	1435	781.6	4722.9	320.4	2676.5	3409.1

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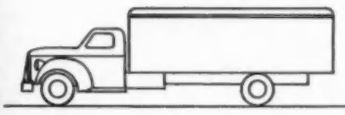
1954

COMMERCIAL

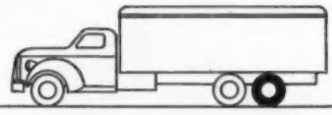
Are You Paying Big Fines for OVERLOADING?

Convert *Present* Trucks or *New* Trucks with

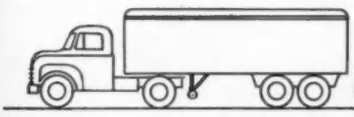
Trucktor® TRAILING AXLES



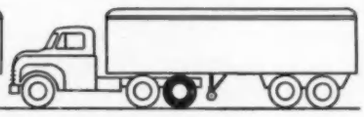
Allowable GVW.....30,000 lbs. Heaviest load on any axle: 16,000 to 22,400 lbs.



Allowable GVW.....44,000 lbs. Heaviest load on any axle: 16,000 to 22,400 lbs.

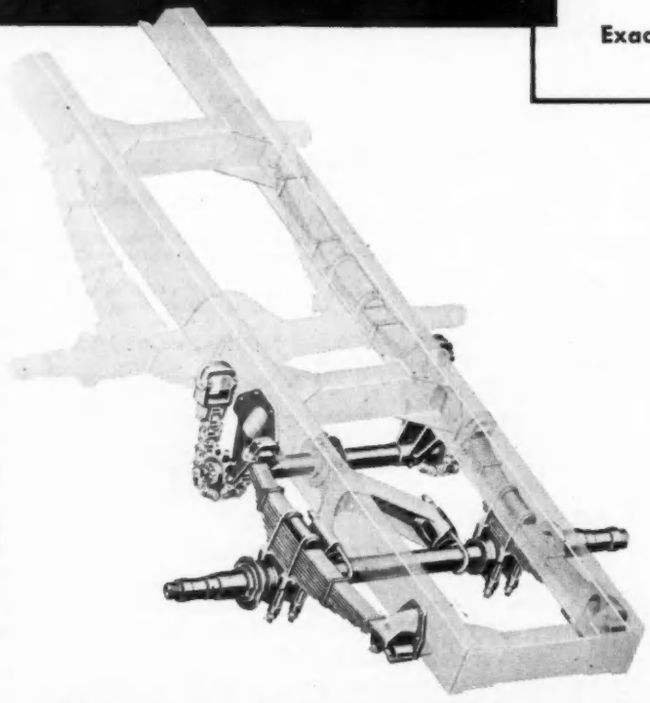


Allowable GVW.....56,000 lbs. Heaviest load on any axle: 16,000 or 18,000 lbs.



Allowable GVW.....72,000 lbs. Heaviest load on any axle: 16,000 or 18,000 lbs.

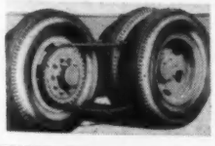
Exact figures depend upon individual state regulations.



With highway officials cracking down on overloaded axles (while in many states they are allowing *greater* GVW), the natural answer is to convert with *Trucktor Trailing Axles*. It's simple: you use your present bodies with minor chassis changes . . . we alter your wheelbases to give proper load distribution.

Your *Trucktored 6-Wheelers* will then carry *more* payload *legally—and* be safer for driver, truck and cargo . . . give you 4-wheel drive for winter operation. Your Trucktor units will cost practically nothing to maintain . . . outlast your trucks in service life.

TRUCKTOR *Detachable* Chain-and-Sprocket 4-WHEEL DRIVE



Makes tire chains unnecessary. When extra traction is needed, sprocket chains are slipped over sprockets and pinned. Attached and detached quickly, simply, without removing wheels (in picture, wheel removed to show construction).

Your Trucktor Distributor can make these conversions for you!

THE TRUCKTOR CORPORATION

Route 22, Mountainside, N. J.

Trailing Axles for 6-Wheeler Conversions. Single and Tandem-Axle Trailer Assemblies with Steel Springs or General Air Springs.

prevents vapor lock!

Bendix

ELECTRIC FUEL PUMP for trucks, buses and passenger cars

Learn more about this new and improved fuel pump. Write for descriptive folder and specifications.

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ECLIPSE MACHINE DIVISION
ELMIRA, N. Y.

Bendix* Electric Fuel Pump

Bendix* Folo-Thru Starter Drive

Stromberg* Carburetor

DATES *and* DOINGS

SEPTEMBER

12-15—National Truck Leasing System, Annual Meeting, Bismarck Hotel, Chicago, Ill.

13-14—Wisconsin Motor Carriers Assn., Annual Convention, Lake Lawn Resort, Lake Delavan, Wis.

13-15—American Road Builders Assn., Annual National Highway Conference, Deshler-Hilton Hotel, Columbus, Ohio.

15-17—National Assn. of Motor Bus Operators, Annual Convention, Drake Hotel, Chicago, Ill.

16-17—Tennessee Motor Truck Assn., Annual Convention, Claridge Hotel, Memphis, Tenn.

16-18—Michigan Trucking Assn., Annual Convention, Park Place Hotel, Traverse City, Mich.

16-18—Pennsylvania Motor Truck Assn., Fall Meeting, Pocono Manor Inn, Pocono Manor, Pa.

16-18—Western Assn. of State Highway Officials, Annual Conference, Challenger Inn, Sun Valley, Idaho.

18—Massachusetts Motor Truck Assn., Annual Meeting, Somerset Hotel, Boston, Mass.

20-22—Truck Body and Equipment Assn., Annual Meeting and Exposition, Hotel Statler, Buffalo, N. Y.

22-23—Central Motor Freight Assn., Annual Meeting, Palmer House, Chicago, Ill.

27-30—American Transit Assn., Annual Meeting, William Penn Hotel, Pittsburgh, Pa.

28-30—Southeastern Assn. of State Highway Officials, Nashville, Tenn.

29-Oct. 2—Local Cartage National Conference, Annual Convention, Hotel Warwick, Philadelphia, Pa.

OCTOBER

7—Automobile Old Timers, Annual Meeting & Dinner, Hotel Astor, New York, N. Y.

7-9—Idaho Motor Transport Assn., Annual Meeting, Shore Lodge, McCall, Idaho.

8-9—North Carolina Motor Carriers Assn., Annual Convention, Hotel Carolina, Pinehurst, N. C.

14-15—National Automobile Transporters Assn., Annual Convention, Sheraton-Cadillac Hotel, Detroit, Mich.

18-20—National Accounting & Finance Council, American Trucking Assns., Sheraton Hotel, Chicago, Ill.

18-20—Society of Automotive Engineers, National Transportation Meeting and Truck and Bus Engineering Display, Sheraton-Plaza Hotel, Boston, Mass.

18-22—National Safety Council, Annual Safety Congress and Exposition (Commercial Vehicle and Transit Safety Sessions, La Salle Hotel), Chicago, Ill.

25-27—National Lubricating Grease Institute, Annual Meeting, Mark Hopkins Hotel, San Francisco, Cal.

25-29—American Trucking Assns., Annual Convention, Waldorf-Astoria Hotel, New York, N. Y.

26-27—Society of Automotive Engineers, National Diesel Engine Meeting, Hotel Statler, Cleveland, Ohio.

27-29—American Society of Body Engineers, Annual Technical Convention, Rockham Memorial Bldg., Detroit, Mich.

NOVEMBER

4-5—Society of Automotive Engineers, National Fuels and Lubricants Meeting, Mayo Hotel, Tulsa, Okla.

8—National Assn. of Railroad & Utilities Commissioners, Annual Convention, Chicago, Ill.

11-12—Arkansas Bus & Truck Assn., Annual Meeting, Marion Hotel, Little Rock, Ark.

14-20—National Truck Transportation Week.

18—Maine Truck Owners Assn., Fall Get-Together, Lafayette Hotel, Portland, Me.

18-19—Associated Motor Carriers of Oklahoma, Annual Convention, Tulsa Hotel, Tulsa, Okla.

18-20—Montana Motor Transport Assn., Annual Meeting, Northern Hotel, Billings, Mont.

19-20—West Virginia Motor Truck Assn., Annual Convention, Daniel Boone Hotel, Charleston, W. Va.

DECEMBER

8-10—Automotive Service Industries, Executive Booth Conference, Navy Pier, Chicago, Ill.

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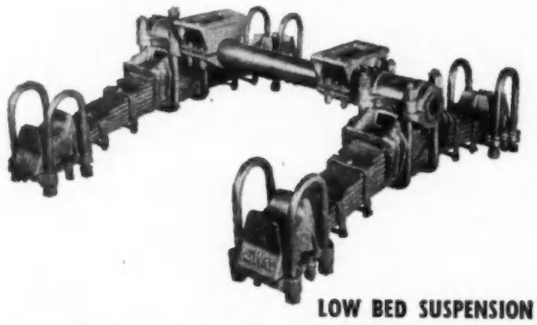
Designers
Engineers and
Manufacturers of
TANDEM SUSPENSIONS

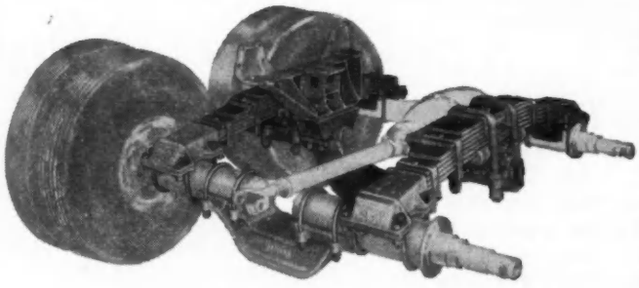
recognized as meeting the need for every type of highway and specialized off-the-highway hauling.

NO LUBRICATION — an exclusive feature of **NEWAY TANDEMS.** All points of movement are rubber mounted, eliminating wear as well as the need of lubrication for the life of the unit.

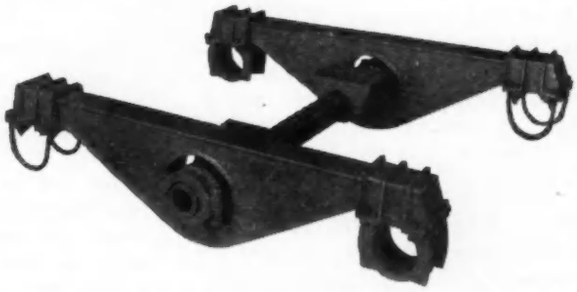


LOW BED SUSPENSION

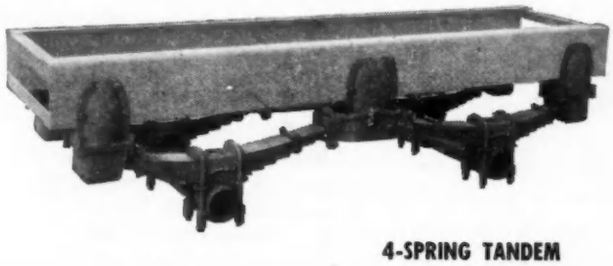
TWO SPRING TANDEM



PUSHER THIRD AXLE — TRUCKS



WALKING BEAM SUSPENSION



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9-FOOT "SELF-TRACKING" TANDEM

Write NEWAY or see your NEWAY DISTRIBUTOR about your specific needs.

MANUFACTURERS AND OPERATORS of trucks, trailers and specialized equipment can depend upon **NEWAY** Tandem Suspensions to properly shoulder and move the load. Standard models available. Special models engineered and manufactured to customer specifications.

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DESIGNERS • ENGINEERS • MANUFACTURERS

Equipment Company
MUSKEGON, MICHIGAN
OF SUSPENSIONS FOR TRAILERS • TRUCKS • SPECIALIZED EQUIPMENT

Laugh it off!

Fleetman's Daughter: "Mother, do you find men trying?"

Mother: "Yes, dear, but you must learn to hold them off."

CCJ

Road Truck Driver (in Diner): "Waitress!"

Waitress: "Yes, sir."

Road Truck Driver: "What's this you just served me?"

Waitress: "It's bean soup, sir."

Road Truck Driver: "No matter what it's been, I am interested in knowing what it is now?"

CCJ

Child Expert: "If your child becomes unmanageable, switch his attention."

Fleety-fleet Executive: "Switch his what?"

CCJ

Shop Roustabout: "I've got the craziest girl. Last night while we were sitting on the sofa she turned out the light, snuggled up close to me and said, Honey Pie, lets play Post Office."

Yard Hostler: "Man, they's nuthin' silly about that. What happened?"

Shop Roustabout: "We didn't get to play. She wasn't there when I got back from the drugstore with the stamps."

CCJ

Steno Lou: "First it was love. He fascinated me. I kissed him . . . mm . . . mm."

Steno Sue: "Yes, I know. Then he began to unfascinate you . . . and you had to slap him!"

CCJ

Terminal Manager: "What are all those chickens doing out front of our house?"

T.M.'s Wife: "Just curious. They heard you were going to lay a sidewalk."

FATTY FLOORBOARDER, OUR BIG-FOOTED TRUCK DRIVER, SAYS HIS OLD LADY THINKS THAT A "STERN WHEEL" IS A BIG SHOT WHO NEVER SMILES.

CCJ

Playboy Safety Director: "Your husband looks like a brilliant man. I imagine he knows all about everything."

Boss's Wife: "Oh, you silly boy. He doesn't even suspect anything."

CCJ

Safety Sadie: "You know that ravishing redhead billing clerk? I heard this morning that she shot her boy friend last night and the police have taken her into custody. She's really in trouble, isn't she?"

Catty Cora: "Everybody was talking about it on the bus coming to work this morning. They seem to think she'll go free. She's going to claim self defense. He pulled a wife on her."

CCJ

Safety Supervisor: "I've loved you more than you'll ever know."

Blonde Cutie: "How dare you take advantage of me when I'm drunk."

—————"Cici Jay"—————

Steno Sue: "What does 'unaware' mean?"

Steno Lou: "It's the last thing you take off at night."

CCJ

Personnel Manager: "Now, tell me in a few words why you want to work for us."

Applicant: "Okay, sir. This is the best reason I can give. I got sick and went to see my doctor. He gave me five pills and told me to take one after each meal. That was a week ago, and I still have four pills left."

CCJ

Steno Lou: "What's the difference between a shower and a sailor?"

Steno Sue: "Golly, I don't know."

Steno Lou: "You'd better find out before you get under one of them."

CCJ

A traffic cop stopped a moving van driver and said: "You've been doing 70 miles an hour. I'm afraid I'll have to give you a ticket."

"Seventy miles per hour!" shouted the van driver. "I wasn't doing sixty, or fifty, or even forty miles per hour, and you know it! Why, I wasn't even doing thirty miles an hour . . ."

"Hold on! Wait a minute," said the officer. "If you keep on a little more it looks like I may have to give you a ticket for over-parking."

CCJ

The Greasemonkey had been drinking beer at his favorite taproom all afternoon. Becoming a bit hungry, he wandered down the street to a diner.

"Bring me an order of sardines," he said to the cute diner waitress.

"Do you wish them served in the can, sir?" the waitress asked.

"No, but you better hurry" replied the happy Greasemonkey.

Resume Work

INTERNATIONAL Announces

12 NEW COE MODELS

Available in 3 series of 4 models each. Wheelbases from 99 to 153 inches. GVW ratings, 21,000 to 30,000 lbs. Famous INTERNATIONAL power, including new 201-hp Royal Red Diamond engine in CO-220 series.

Built with famous INTERNATIONAL all-truck quality to provide greater payload profits

INTERNATIONAL, the heavy-duty leader, brings truck operators new features for payload profit—in an entirely new line of heavy-duty COE trucks.

These all-new INTERNATIONALS make the most of every COE advantage. Short-coupled design permits the use of 35-foot semi-trailers well within the usual 45-foot over-all length limit. In straight truck operation shorter over-all lengths for given body sizes mean easier maneuvering and parking. Better load distribution provides more payload capacity on front and rear axles for more profit.

What's more, these new INTERNATIONALS give you maximum service accessibility, driver comfort, better visibility, and greater safety. With famous Red Diamond truck engine power and proved INTERNATIONAL stamina, economy and long life, these new COE models will lower your maintenance and operating costs and boost your payload profit.

Get complete details and an "on-the-job" demonstration from your INTERNATIONAL Dealer or Branch.

Greater Maintenance Economy! Newest COE counterbalanced cab swings forward to give complete access to engine, transmission, clutch and other units for reduced servicing time and costs. One man can swing cab forward easily with one hand.

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International Harvester Builds McCORMICK® Farm Equipment and FARMALL® Tractors...Motor Trucks...Industrial Power...Refrigerators and Freezers

Better roads mean a better America

INTERNATIONAL® TRUCKS

"Standard of the Highway"

TRAILERS ON FLATCARS

By Jack Colgan
Assistant Editor

ICC has given the "green light" for most all types of "piggy-back" service. Legal wrangling can change it to "amber." Big problem—"Captive" TOFC at motor carrier competitive rates—is due for argument Oct. 12

A PROGRESS R

THERE'S still a long way to go before "Operation Piggy-Back" will be running smoothly. Despite recent rules handed down by the Interstate Commerce Commission in a surprise quick decision, you can expect to see plenty of legal wrangling before trailer-on-flatcar service becomes an integral part of America's transportation system. While the ICC ruling outlines some basic principles, there are still a number of questions left unanswered.

One of the big problems: Use of TOFC service by the railroads for their own freight. Such "captive" TOFC service is currently under investigation and study by the ICC in a proceeding concerning tariffs filed by six eastern railroads (CCJ Aug., page 17). Hearings in this proceeding are scheduled to resume October 12, with the railroads required to present operating data on their services.

The ICC report on the basic questions concerning TOFC service approved the principle of "captive" operations. However the hearings on the specific tariffs filed by the railroads will spotlight the question of rates to be charged for the service. In the tariffs, the railroads offer the service at rates competitive with motor common carriers.

While motor carriers have been defeated in their opposition to the basic principle of captive TOFC service, it seems likely they will continue their fight against permitting the railroads to offer the service at competitive rates. Most likely main basis for the opposition will be that railroads with their high terminal costs cannot compete with motor carrier rates and still receive just and reasonable compensation.

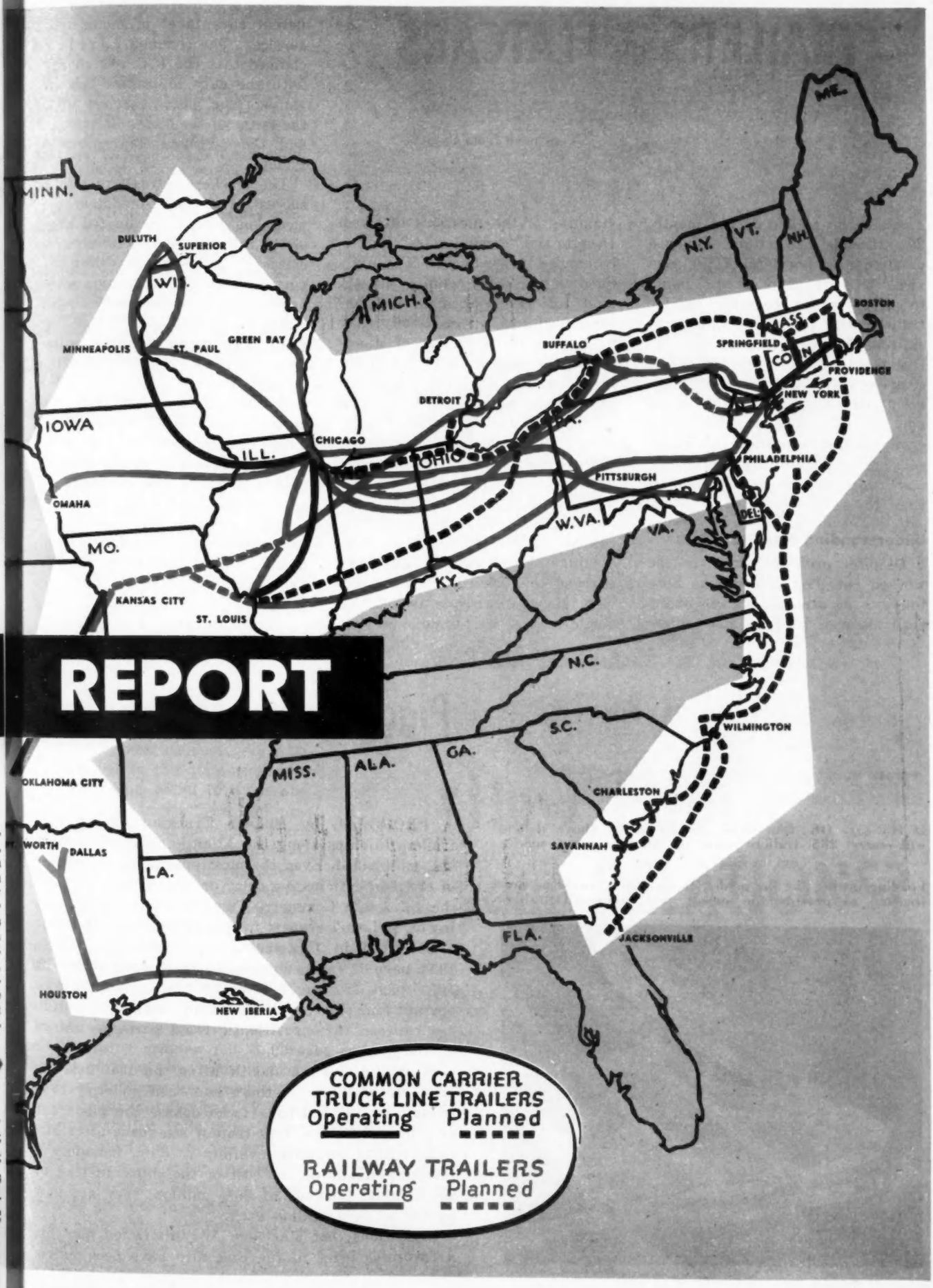
ICC Green Light

In the meantime, railroads now have the ICC's blessing to operate TOFC services for their own freight, and a number of roads are now offering the service to shippers. In this type of operation, the railroads provide a single-vehicle door-to-door service in their own or leased trailers for freight moving on railroad bills of lading.

This could mean some trouble for motor common carriers who will be faced with a new form of potential competition. How extensive this competition will be cannot yet be positively determined. However, even a quick glance at the accompanying map reveals that captive Piggy-Back operations make up most of the nation's network of existing or planned TOFC services.

(TURN TO PAGE 70, PLEASE)

At right is the trailer-flatcar picture as of the middle of last month. Routes of railroads carrying common carrier truck line trailers are shown in black — a solid line for presently operating services, a dotted line for expected future operation. Railroads carrying their own or leased trailers in "captive" TOFC service are indicated by the solid and dotted red lines. The map also shows McLean's proposed trailership operation (see page 70) but does not show two west coast railroads operating "captive" piggy-back.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BOSTON
SPRINGFIELD
CONN.
PROVIDENCE
NEW YORK
PHILADELPHIA
PITTSBURGH
W.VA.
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KANSAS CITY
ST. LOUIS
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N.C.
S.C.
WILMINGTON
OKLAHOMA CITY
MISS.
ALA.
GA.
CHARLESTON
SAVANNAH
WORTH
DALLAS
LA.
FLA.
JACKSONVILLE
HOUSTON
NEW IBERIA
COMMON CARRIER
TRUCK LINE TRAILERS
Operating
Planned
RAILWAY TRAILERS
Operating
Planned

REPORT

TRAILERS ON FLATCARS

Continued from Page 68

As of the middle of last month, 20 railroads had either launched or announced plans for TOFC service. Of these, only five are listed to carry motor common carrier trailers with the others limited to railroad freight. And of the captive services, most are set up to compete with motor carriers, with tariffs showing competitive rates and minimum weight and penalty clauses similar to those of motor carriers. (A summary of existing and proposed services begins on page 154.)

Understanding Needed

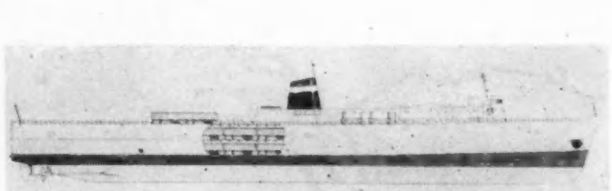
Despite problems still to be worked out, TOFC service is here to stay. As a result, it's important that fleetmen have a clear understanding of the questions involved. Despite the "ground rules" recently handed down by the ICC (outlined on page 144) conflict between truck and rail spokesmen will continue and truckers generally may be faced with the charge of standing in the way of this "revolution in transportation." To meet such criticism, fleetmen must have a thorough understanding of the position of the trucking industry as a whole and of their particular segment.

Motor common carriers are strongly opposed to the principle of captive TOFC services. In proceedings before the ICC they have charged that such services, in effect, permit railroads to offer a single-vehicle, door-to-door service, which up to now has been an "inherent advantage" of motor truck service. The common carriers claimed that the ICC was charged with the duty to protect this advantage for motor carriers under the terms of the Motor Carrier Act and the National Transportation Policy.

The truckers claimed that to be successful a trailer-on-flatcar service should be a coordinated effort of the railroads and motor common carriers. This stand has been supported by the railroad union which has urged rail managements to attempt to set up coordinated services with motor carriers rather than to use TOFC as a competitive weapon.

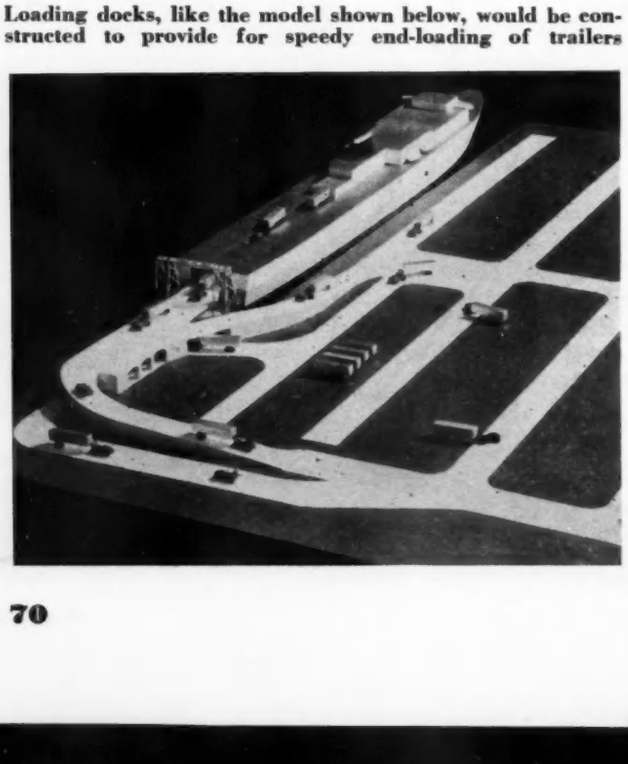
Private carriers are also concerned with TOFC developments. They take the position that when a TOFC service is set up the procedure involves the shipment of trailers as "containers" and that private, common, or other motor carriers assume the role of "shippers." In this situation, say the private carriers, the railroads are forbidden to discriminate among

(TURN TO PAGE 144, PLEASE)



If ICC says OK, four ships, similar to the above sketch, will carry 285 trailers each in Atlantic coast service

Loading docks, like the model shown below, would be constructed to provide for speedy end-loading of trailers



Piggy-Boat—Mothballed

A PROPOSAL by McLean Trucking Co. to haul trailers in ships along the Atlantic coast is, at present, mothballed. Even the most optimistic proponents of the plan anticipate a delay until early autumn until the Interstate Commerce Commission issues its ruling on McLean's request to operate the service.

Described in COMMERCIAL CAR JOURNAL, March, 1954, page 62 (and subsequent issues: June—page 18, July—page 19, Aug.—page 19), the basic idea is to operate four ships, each capable of carrying 285 trailers between various Atlantic coast ports, as shown on the map on page 69.

In late August, a month after the ICC held its most recent hearings, there had been no reply to a request by the railroads (who oppose the plan) for additional hearings. This request was made after McLean offered corrected exhibits in July, including a revised estimate on the cost of the ships. Instead of the original estimate of $6½ million, they are now figured at $8½ million each.

Indications that Maritime Administration may file a favorable brief in the case also have been noted.

PR PANELISTS Les Allman of the Allman Co. (representing Fruehauf), Bart Rawson of COMMERCIAL CAR JOURNAL, "Luke" Lucas of Kingham Trailer Co., Jack Weed of *Automotive News* and Rufus Jones of Trailmobile, Inc. John B. Hulse of TTMA was moderator.

ASSOCIATION MEN in attendance included (standing) Art Nuesse of Truck Body and Equipment Assn., Allan Smith of National Truck Tank Institute, Bob Gardner and Lew Kibbee of American Trucking Assns., (seated) Rus MacCleary of National Highway Users Conference, Bill Bresnahan also of ATA, TTMA President John Bennett, and John King of Automobile Manufacturers Assn.

How PUBLIC are your RELATIONS?

Trailer builders admit shortcomings; institute new positive action program

THE ABOVE title was the subject of a special public relations panel at the recent summer meeting of the Truck Trailer Manufacturers Assn. in Chicago. Among several topics discussed, it was the one of most interest to the average fleet operator for it directly concerned *his* welfare as well as that of the association.

Panel members are identified in the picture at top of page. But of equal importance is the large group of *other* association managers who participated in the discussion and who are being asked to cooperate with TTMA in its new and expanding interest in public relations.

During the opening moments of the panel discussion it was generally agreed that the trailer manufacturers could profit most by supporting public relations for the trucking industry as a whole. Healthy public relations for the trailer industry and for the individual trailer builders who participate would follow as a natural sequence. As one panel member put it, "we should build up the industry first, then get publicity for ourselves."

Somewhat paradoxically it was pointed out that it is often easier for individual companies to get publicity than it is for the association. Hence the great need for "everybody to get into the act."

At about this point the panel attempted to define the elements of public relations, came up with the strong conclusion that good public relations was far more than free publicity. Rather it was a combination of good publicity earned for its news value, plus paid advertising, plus such other related activities as public speeches, being a good neighbor and proper behavior on the highway.

Cooperation Needed

As one of the first steps in seeking greater cooperation between

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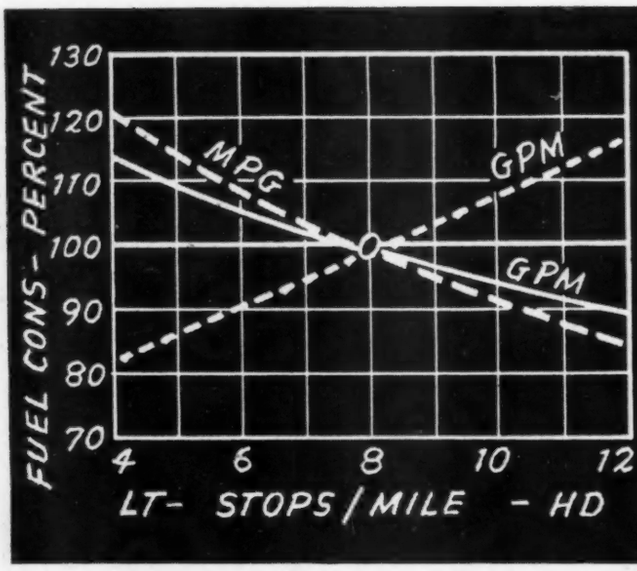
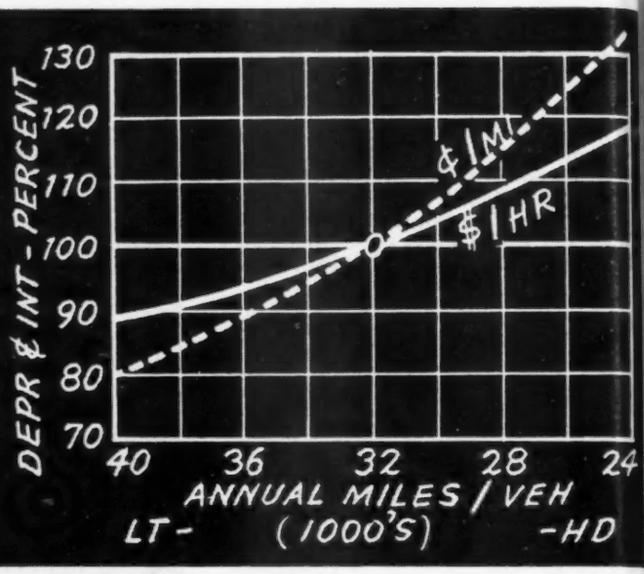


Curve 1. Using wage rates as an example, cost per mile goes up as service density (speed, stops per mile, etc.) increases, making it difficult to use as a cost basis



Curve 2. Miles per hour decrease as stops per mile increase. At same time cost per mile increases, but cost per hour remains stable and permits easier comparison

Curve 3. As
hour varies
cost per mil

Transit Costs— Let's Figure "Dollars per Hour"

THERE are cost yardsticks and languages to express these yardsticks. Much of the mystery of our cost experiences can be wiped out if we but reconsider which unit of measure to use—vehicle miles or vehicle hours.

We attend meetings to trade cost, equipment life, and other experiences with one another. We want to improve. But, what good are these figures we swap, if there is no simple basis upon which to make them comparable? The trouble is, when we talk in terms of "cost per mile", no two of us have in mind the same kind of mile. A "fast mile" with few stops is cheaper than a "slow mile" with many stops—at the same wage rate.

By E. L. Mueller

Locomotive and Car Equipment Dept.
General Electric Co.

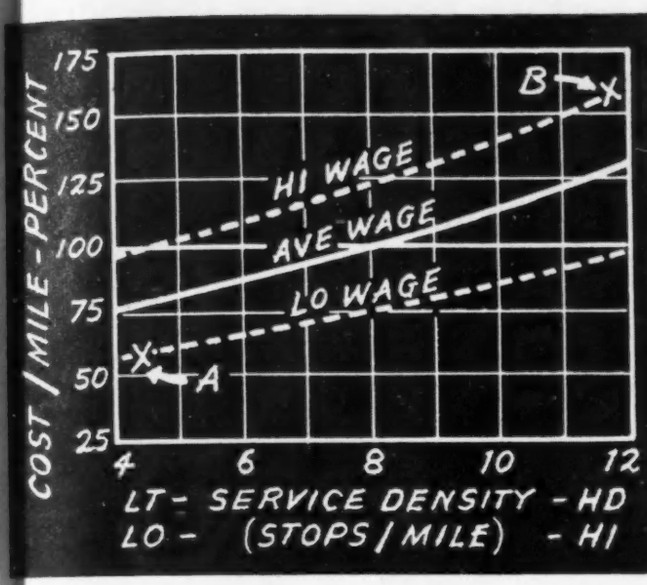
(From a paper presented at the ATA Regional Conference in Detroit)

Is there any compelling reason besides tradition for keeping the present unit of cost—cost per vehicle mile? Early local transit operations had a lot of freight, baggage and interurban operation. These are long gone or separate from today's companies. Hence the present unit—cost per mile—no longer has any singular importance to the pricing of our product—a "seat trip".

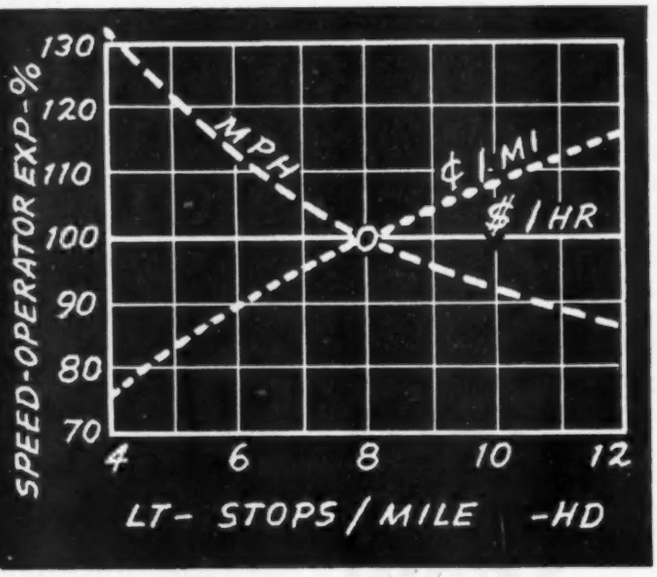
Talk costs with a man whose wage rate differs from yours and you'll automatically adjust or compensate for the wage rate difference. But what we are apt to ignore completely are differences in "service density" between his operation and ours due to "local service factors"—and this variation can equal or exceed that due to differences in wage rates. It can be shown that "costs per vehicle mile" increase sharply as service density increases (that is, lower speeds and higher stops per mile) in accord with Curve 1.

Service Density

The effect of high or low wage rates simply moves the "cost per mile vs service density" curve bodily, up or down. Wage rates in the urban transit industry vary

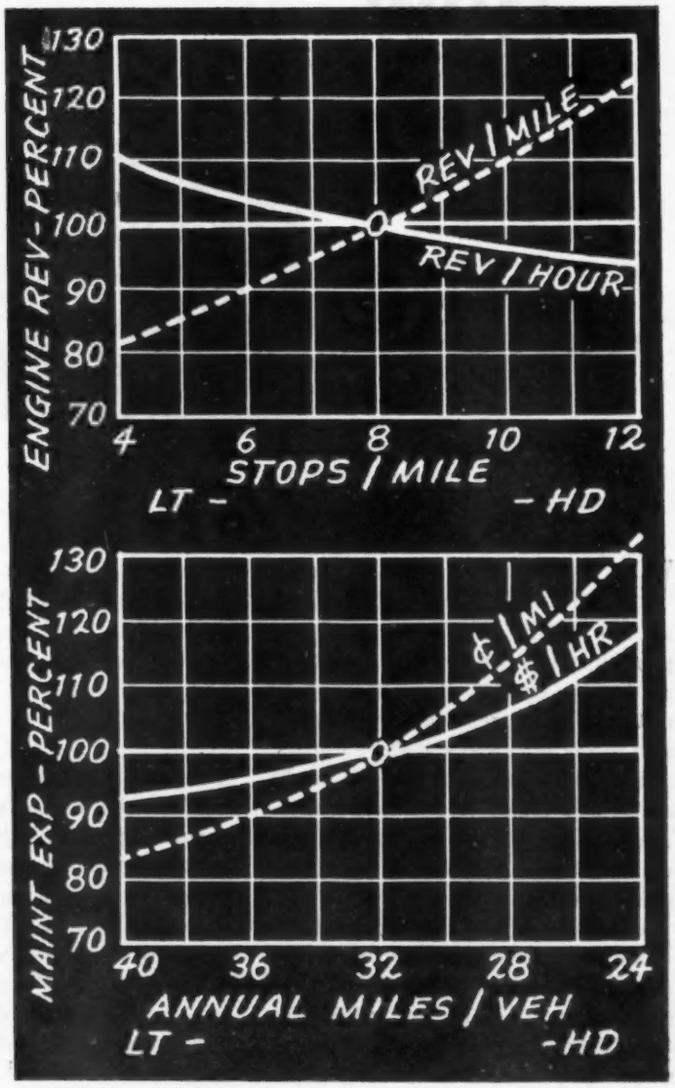


Curve 3. As a measure of fuel consumption, cost per hour varies less as service density increases than does cost per mile, hence is a better operating cost basis



Curve 4. Per hour costs show less variation than per mile costs in comparing annual mileage and depreciation

Curve 5. As service density increases, revolutions per mile show greater variation than revolutions per hour



Curve 6. With increasing service density, cost per hour varies less in comparing maintenance cost and mileage

Cost per mile varies with type of operation. It does not reflect "trip seat" cost. Vehicle hours provide best yardstick for operating costs

± 25 per cent from average. But, service density (speed, stops per mile, etc.) can cause an additional ± 25 per cent variation in "costs per mile."

Assume you own property "A"—another fellow owns "B". If both of you know where you stand on Curve 1, either cost can be adjusted to the other. First adjust vertically to a common wage. Then adjust parallel or along the curve to the other fellow's service density. But, neither of you knows where your service falls in the "service density range." Even if you did, the arithmetic is not simple enough to handle quickly in discussion. First you must compensate for wage rates. Then an additional multiplier (or is it divider?) must be used to adjust for service density.

It's the two-step process of juggling four figures that throws us for a loop; it's too

(TURN TO PAGE 180, PLEASE)

Tests Show How to Control

By Ernest S. Forest
Assistant Editor

WHILE a potential hazard to all fleets, tire fires seem a special problem in high speed operation of heavy trucks. The increasing mileage of expressways, toll roads and other highways with few hills, gradual curves and longer sight distances make tire fires a growing danger unless fleetmen train drivers and mechanics in their prevention and control.

Until recently, little interest has been shown in tire fires, but, so far this year, three different groups have conducted truck tire fire tests. On Feb. 10, at the request of the state's governor, the Nebraska State Fire Marshal made a series of tests to learn if such fires could be prevented from entering the cargo area. American Trucking Associations' Equipment and Operations Section spent five days, beginning March 22 at Yuma, Ariz., studying causes and control of tire fires. On May 26, Pennsylvania Motor Truck Association's Council of Safety Supervisors gathered at Bedford, Pa., to investigate control of tire fires.

While as yet none of the findings can be accepted as conclusive nor the recommendations of th various groups accepted as indu try-wide standards, certain fac seem to have been established:

1. Tires will stand a lot abuse before bursting into flam

2. Tire fires can be controlle by properly educated a equipped personnel, but they r quire equipment not usually ca ried on most fleet vehicles.

3. Tire fires are easier and le costly to prevent than to contr

Tire Abuse

ATA operated trucks with d flated and partially deflated tir through a series of 22 tests. Pr liminary data is lacking on one

Reports from three separate tests indicate that tire fires can be handled by properly equipped and trained drivers—but are easier to prevent

Temperature of a blazing pair of tires, like those at left, can reach 2350 deg F. Tests show, however, that most tire fires can be detected before they get that hot. They can be brought under control—but not extinguished—using an asbestos blanket like that shown below

these tests and three others were tests involving dragging brakes. Of the remaining 18 tests, five resulted in smoking tires—indicative of a burning tube and/or flap—that were sufficiently hot to burst into flame when a match was applied. In another case, an hour after the wheel was removed from the vehicle, the tire burst into flame.

Of the 12 tests where no tire fire resulted, in one case the tire blew and the test was discontinued, in two cases the tire casing split and threw a burning tube with no tire fire; in one case the test was stopped after 61 miles and the tire ignited with a blow torch; and in eight cases the tests were discontinued after temperature checks indicated there was insufficient heat build-up to start a tire fire.

Equipment used by ATA for its tests included three, 32-ft, tandem axle, cattlerack, semi-trailers. In all but four of the above-mentioned 15 tests, the load on the tandem axle was about 38,000 lb and tire pressures were 50 psi or less on the inside tire of the dual set under test and 0 in the outside tire.

While it can be noted that even under such extremes of underinflation tire fires are difficult to start, fleet operators should not overlook two things. First, in 12 of the 22 cases mentioned, some kind of serious tire trouble resulted, and second, the exact conditions necessary to cause a tire fire have not been determined. It was shown that under similar conditions, there may or may not be sufficient heat generated to start a tire fire.

Tire Fire Temperatures

Neither the Nebraska nor the PMTA tests involved creating tire fires by operation of vehicles with deflated tires. Their tests were mainly to determine if such fires could be controlled and the test fires were started by igniting wood excelsior or gasoline around the tires. Of the one test by ATA where a blow torch was used to ignite the tire, the preliminary report says, "This fire didn't in any way resemble the fires which occurred as a result of internal heat build-up, . . ."

In the tests where ATA did obtain fires, tire temperature before igniting the tires ranged from 340 to 570 deg F. (Flash point of a tire is about 450 deg F.) These temperature readings were taken with a needle-type thermocouple inserted in the tire at the edge of the tread. Data are not available on the temperature of the tube, tire flap or inside of the tire casing at the time of recording the temperature at the edge of the tread.

Once the fire spread to the outside of the tire casing the temperature exceeded the capacity of the measuring instruments available at the ATA and PMTA tests. However, using an optical pyrometer, temperatures obtained once the flames involved the tire casing at the four Nebraska tests ranged from 2100 to 2350 deg F!

Such temperatures should confirm in the fleet operator's mind the necessity for training drivers (1) in checking tires at every stop, (2) in recognizing incipient tire fires, (3) in methods needed to bring the fire under control before the casing becomes well involved in flames, and (4) in preventing spread of the fire including, where possible, quick wheel removal technique.

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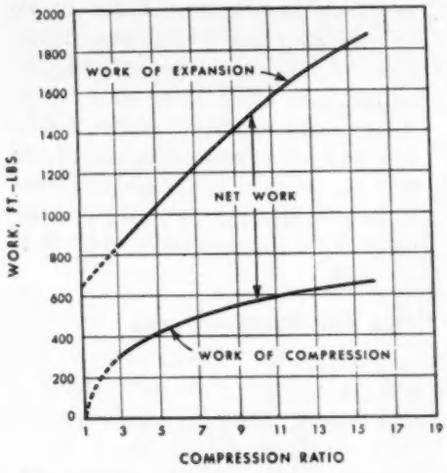


Fig. 1. Work of compression increases at a slower rate than work of expansion. Thus a gain in net work results when compression is increased

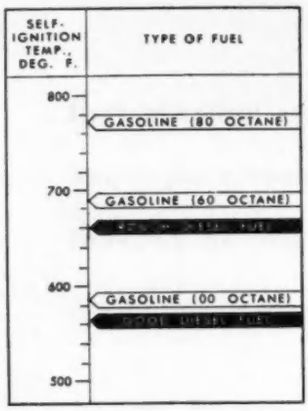


Fig. 2. Self-ignition temperatures of various grades of gasoline and diesel fuel. Fuel injection permits diesel to operate at higher compression

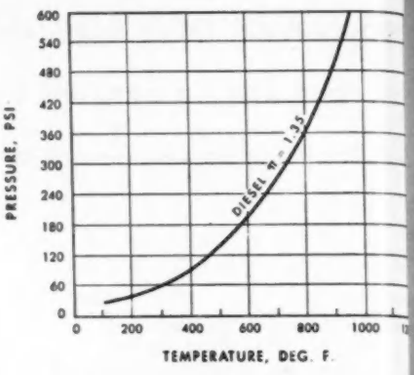


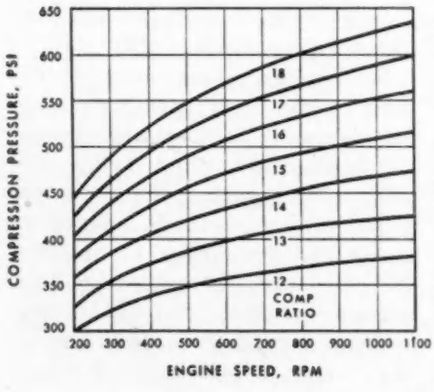
Fig. 3. Relationship between tempe ature and pressure during compressio Note margin between ignition tempe ature (Fig. 2) and actual temperatu

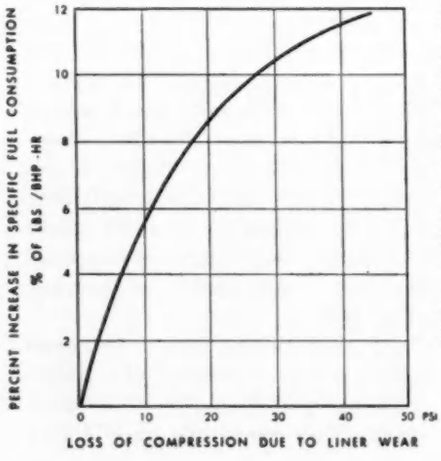
Compression Pressure— Key to Diesel Efficiency

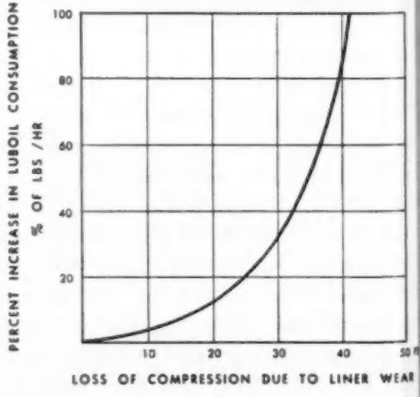
Diesels, designed for higher CP than gas jobs, need precisio

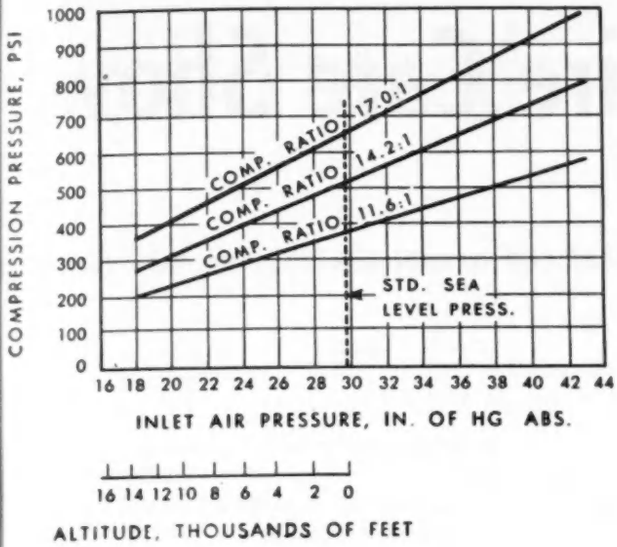
Fig. 7. Effect of engine rpm on compression pressure. Note variation between the various compression ratios

Diagrams indicate how loss of compression pressure increases diesel ope ating costs. Fig. 8 illustrates characteristic curve showing increase in fu consumption, and Fig. 9 shows how lube oil use increases with pressure lo









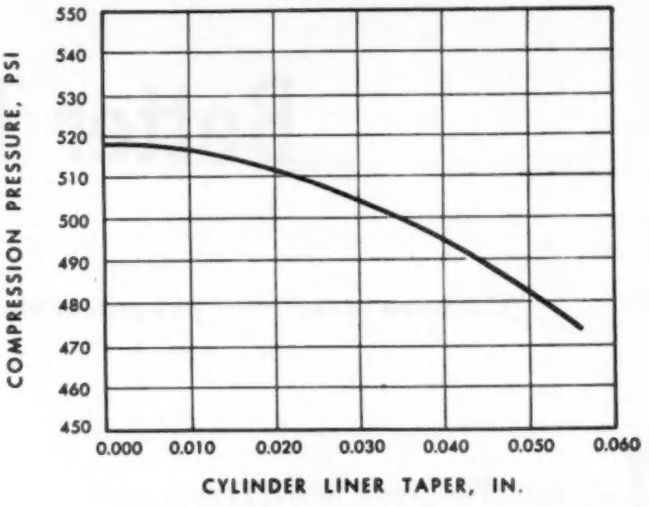
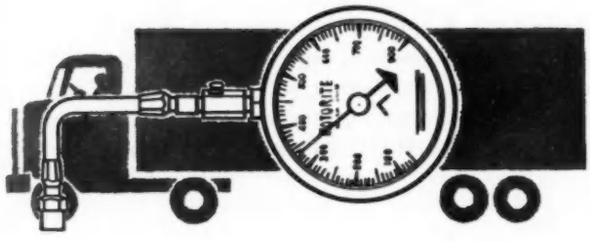


Fig. 4. Left. Compression pressure drops with as inlet air pressure increases. Altitude barometric changes affect pressure considerably

Fig. 5, Above. Compression pressure drops with increased cylinder liner taper, also with broken rings, leaky valves and gaskets, liner wear



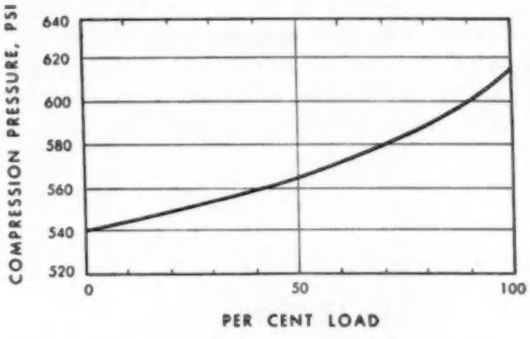


Fig. 6. As engine load increases, compression pressure goes up. In this case, increase was about 60 psi in going from light to full load

maintenance for efficient performance

Prepared expressly for CCJ by the Engineering Staff of Bacharach Industrial Instrument Co.

A GOOD compression pressure is vital to any type of internal combustion engine, but it is particularly important to the diesel which operates at considerably higher compression ratios than does the gasoline engine.

By the same token, diesel compression pressure, which is the measure of compression efficiency, should be carefully tested at frequent intervals and maintained within close tolerances.

In order to appreciate the importance compression pressures play in diesel engine performance one must know something of the fundamentals of combustion engine design. The following graphs and charts will help to clarify some of the technical aspects of diesel engine operation. Let us take a look at what is happening inside the cylinders with regard to temperatures and pressures.

Thermodynamically it can be shown that the higher the compression pressure the higher will be the efficiency of the engine. One may ask how an increase in compression pressure can increase engine horsepower since the work required to compress the air comes from the crankshaft. Why doesn't this subtract from the net work? Fig. 1 gives the answer in graphical form. The work required for compression increases at a slower rate than the work obtained from expansion. It follows then that a gain in net work will result from an increase in compression.

More Air, More Work

Horsepower output of an internal combustion engine is directly proportional to the quantity of fuel

(TURN TO PAGE 164, PLEASE)

Better Tire Care Shows Big

"Common sense" tire program nets $150,000 annual savings for this common carrier

By C. H. Rose,
Fleet Superintendent
East Texas Motor Freight Lines

IN 1951, East Texas Motor Freight Lines line haul tractor trailer count ran: 170 tractors, and 325 trailers. The trip mileage ran just under 16,000,000 miles. Our line haul tire cost ran $478,000. In March, 1952, we put in what we term our "common sense" tire program. The end of 1952 showed a line haul tire cost of $397,000, with approximately the same number of wheels on the ground and the same number of miles. The tire program was beginning to show results.

All through 1953 we showed improvement. Our records were giving us a measuring stick which we could use in setting up rules and determining types of carcass and tread.

At the end of '53, we showed a line haul tractor-trailer trip mileage of 16,692,470. These miles are based on the amount of money paid line haul drivers for miles operated and do not include the miles the line haul equipment operated in and around the terminal or in cities. It also does not include the mileage ETMF trailers were operated during the time they were on interchange off of our line. These are not important in setting up the tire picture and showing the savings but I wanted to mention them here.

RECAPS

Brand No. _____

1st Recap By _____ Date _____ Cost _____ Mileage _____
2nd Recap By _____ Date _____ Cost _____ Mileage _____
3rd Recap By _____ Date _____ Cost _____ Mileage _____

Vehicle Number	Wheel Position	Date On	Date Off	Odometer On	Odometer Off	Mileage	Cause of Removal and Disposition	Date of Repair	Cost of Repair

Cause of Perm

B 327 (9-48) 9726

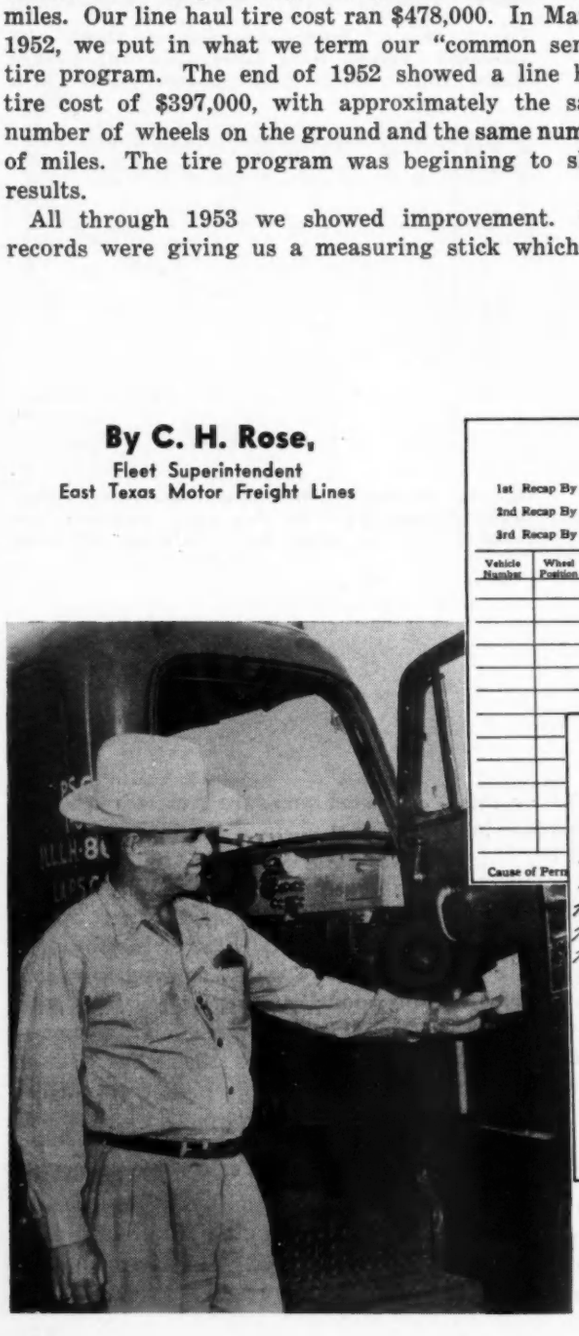
GOODYEAR
TIRE MILEAGE RECORD
(ONE FOR EACH TIRE)

Brand No. 9726
Serial No. 0000000000

Make of Original Tire 0000000000 Size 1000/20 12PR Type _____ Cost $ 82.25
Purchased From: 0000000000 Rayon - Plies _____ Cotton - Plies _____ Invoice Date 8/7/50

Vehicle Number	Wheel Position	Date On	Date Off	Odometer On	Odometer Off	Mileage	Cause of Removal and Disposition	Date of Repair	Cost of Repair
T-363	LF	8-11-50	4-13-51	0	49925	49925		6-8-51	20.00
T-451	RRI	9-18-51	5-24-52	24937	89457	64,520			
T-328	RRO	6-12-52	8-14-52	48205	64719	16,514			
						130,959			

Cause of Permanent Removal from Service _____
(Use other Side for Recap Data)



Left. Jim James, driver supervisor, shows how tire record cards are kept in canvas pockets. Complete tire information, see mileage card above, is thus made immediately available when the tires are being checked

Big Dividends

carrier operating 495 units over 16 million miles

During the year 1953, the total cost of tires on line haul equipment (tractors and trailers) ran $327,611. Dividing this into 16,692,470 trip miles operated, we show a tractor-trailer combination tire cost of .01962 per mile. Our tractor-trailer combinations average 16 tires on the ground; therefore our cost per mile on each tire operated ran .001226.

With approximately the same amount of line haul equipment operated in 1953 (173 tractors and 327 trailers), and marking up approximately the same number of line haul tractor-trailer trip miles, we showed a savings of better than $150,000 on our tire cost over 1951, and a $70,000 saving over 1952.

In setting up what we term our common sense tire program we used no miracle drug or special tire panacea. We worked out a program which we felt would accomplish results. This program had to be sold to every ETMF employee in the organization.

Tire Superintendent

We were fortunate in selecting a very capable man for our tire superintendent. Vance Booker is a retired U. S. Army major with a 23-year Army service record.

It is the duty of the tire superintendent not only to train all personnel in the tire department, and we have 12 now, but under his supervision is the job of selling the tire program to everyone in the organization.

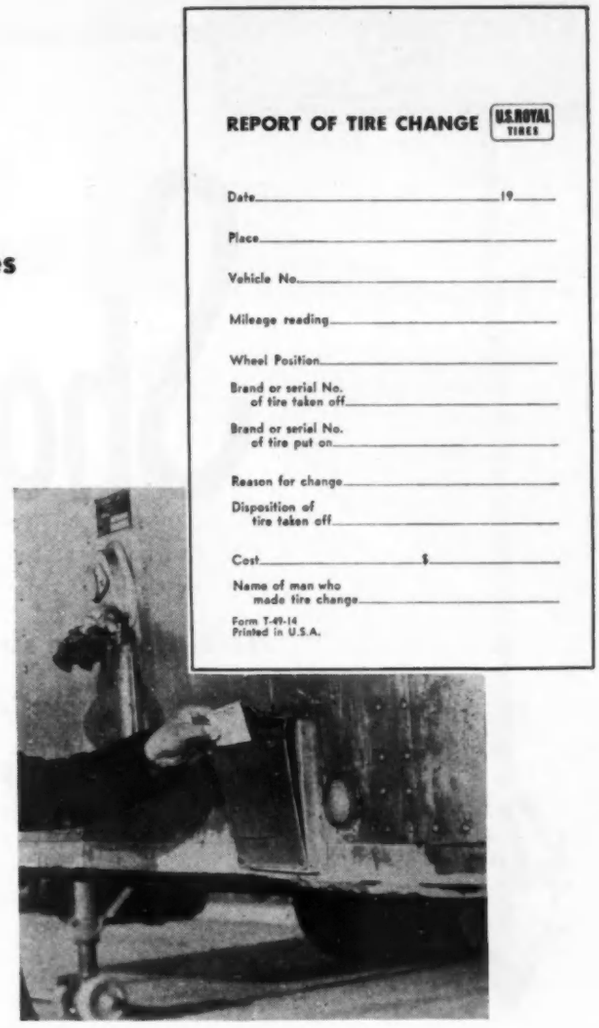
The Training Program

Each tire man must know proper inflation and why. For our 1000 x 20's we have found that 75 lb pressure is right. We do not allow this to vary more than 2 lb. From a study of our tire record, where we have kept comparative records on at different tire pressures, we are determined that, at 75 lb, we get more mileage, and have less carcass and tread wear.

Everyone of the dozen men in the tire department can tell you exactly why we demand 75 lb tire pressure. He can not only tell you; he is personally sold on the importance of enforcing this tire rule, and he gladly explains it to help put over our program. Selling the tire program is a part of his job.

Each tire man must know how to match duals, how to align them on the wheel, and how to explain the need for this in gaining longer safe tire life. He must also understand tire rotation.

He must also know how to detect whether the vehicle which he checks for tires, has any mechanical defect, such as loose wheel bearings, out of line brake drums, worn king pins, or other misalignment which would cause excessive tire wear. By observing unusual or irregular wear on a tire, our tire men can tell what mechanical defect is causing this wear and report it.



Above. Tire change tag for trailer is kept in a waterproof pocket at front. Top. Report of tire change card provides complete information for the shopman's fleet record

A Perpetual Tire Inventory

We have a perpetual tire inventory system which is kept up *daily*.

Each and every vehicle throughout the system, both tractors and trailers, carries as part of the required equipment, a small waterproof canvas pocket in which are kept an ample supply of our tire change record cards.

The driver turns in a card on any tire change at the end of each trip. This is turned in with the trip sheet. It is the duty of each dispatcher or terminal manager to see that these cards are immediately forwarded to the tire record department, which is at Texarkana. If a tire man makes a change, it is his

(TURN PAGE TO 130, PLEASE)

Shop Hints

Here are some swell time savers for fleet shops. Let us have your ideas for new tools or short cuts to service. We'll pay $10 and $25 for good ones.

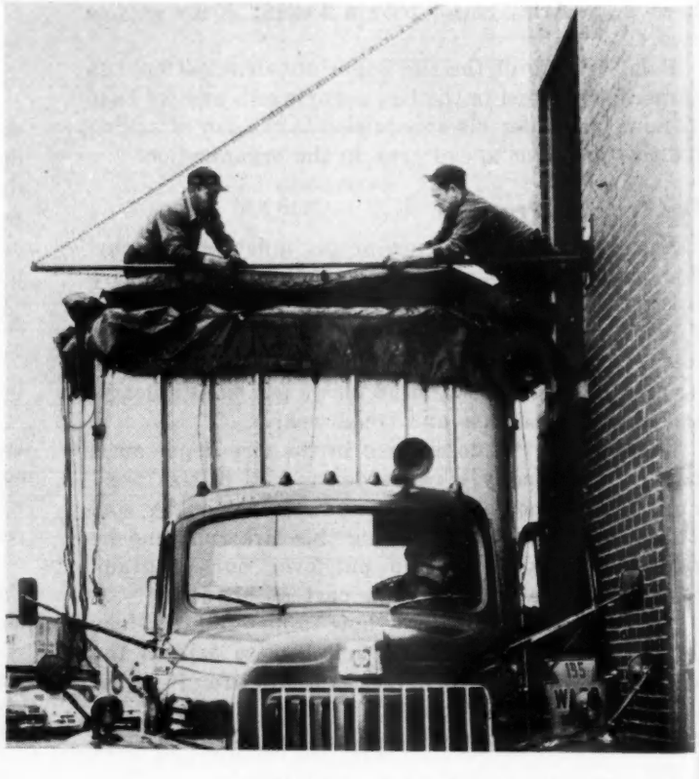
Tarpaulin Spreader

By Ray Crider, Shop Foreman
Ward Trucking Corp., Altoona, Pa.

It used to take two or three men 30 or 40 minutes scrambling around on top of the trailer to stretch a tarpaulin by hand. With this device, we have cut the time to 10 minutes and have found we can take an old tarp off at the same time we are putting a new one on. Here's the way to make one.

Fasten a 10-ft length of 1-in. pipe to the wall with a hinge. Support the pipe with two 12-ft lengths of chain. One length of chain is fastened to the wall above the pipe and the other to the wall opposite to the direction of movement of the truck.

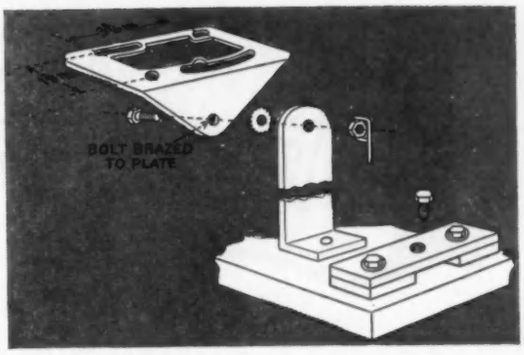
To put the tarp on, drive the combination under the rig and fasten the front straps of the tarp to the trailer and the rear straps to the pipe. Pulling the trailer forward spreads the tarp and all that has to be done is to tie it down. The pipe folds out of the way when it is not in use.



Carburetor Work Stand Is Easy to Make

By John Shramko, 520 East 13th St., New York City

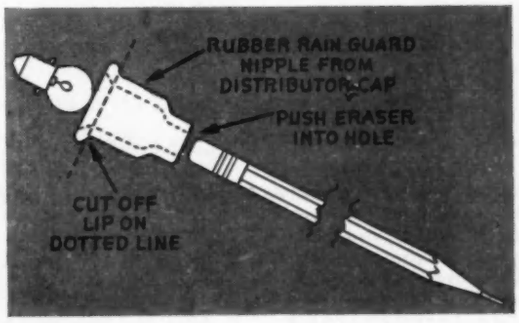
The working area of this carburetor test stand measures 5 x 3½ in. and is made from 3/16-in. thick scrap. After the truck carburetor (or fuel pump) is fastened to the plate with 5/16-in. bolts, it can be turned to any angle to be dismantled. The large hole in the center of the plate permits easy access to the throttle plates. Two small surface levels are used when checking fuel level.



Distributor Nipple Speeds Bulb Removal

By Joseph Marinko, DeJoseph's Atlantic Service, Hazleton, Pa.

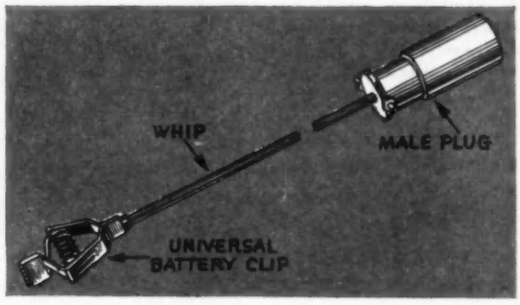
This is a handy tool to have when removing and replacing hard-to-reach lamp bulbs. Take a rubber rain guard nipple from a distributor cap and cut off the lip, as shown. Push the eraser end of a lead pencil about a ¼ in. into the small end of the nipple. Fit the large end of the nipple over the lamp bulb, then push the pencil inward and twist to the left to free the bulb.



Handy Device Checks Trailer Lights

By T/Sgt. W. J. Sander, USMC Motor Repair Shop, Parris Island, S. C.

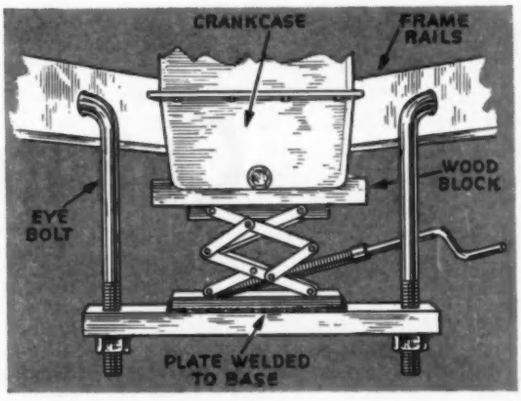
To check lights on a semi-trailer without the tractor hooked up, take a tractor light connector, remove a male plug, join all wires together, and fasten them to a universal battery clip. To use, clip this end to the battery and connect the other to the trailer light socket. Clip the negative jumper from the battery to the trailer. In this way you can check all the lights in about 3 min.



Jack Provides Temporary Engine Support

By A. D. Marshall, 504 West Brighton Ave., Syracuse, N. Y.

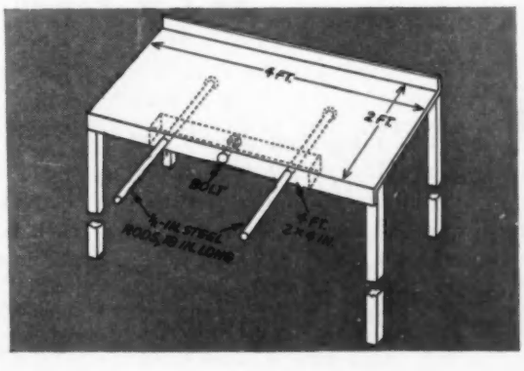
Here's an engine support that can be used to hold the engine in place when it is necessary to remove the rear engine supports. (Engines with supports on transmission housing.) Two 9/16-in. eye bolts are hooked to fit in holes in the truck frame, the other ends being bolted to a length of box channel to form a platform. On this platform is welded an old scissor jack. Between the jack and the crankcase, place a short length of 2 x 4-in. wood block and raise the jack sufficiently high to take the engine weight off the engine supports. Block will support engine without bending the pan.

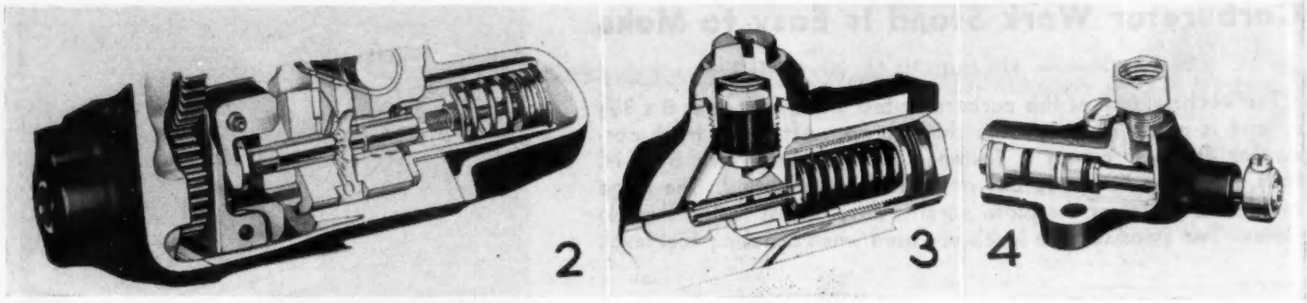


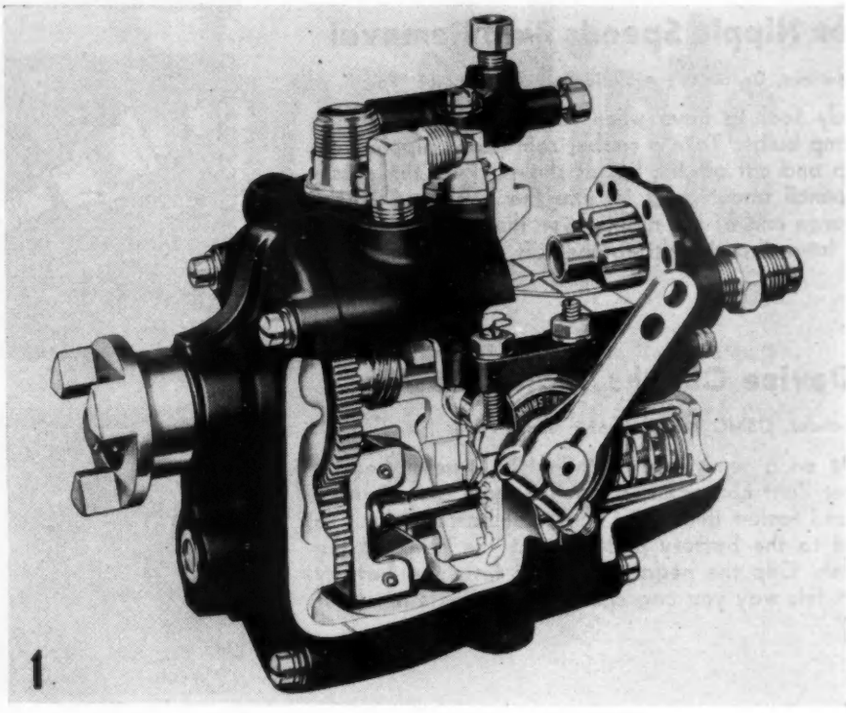
Rods Make Work Bench More Useful

By Bill Ellis, Mechanic, Postier & Eggers Co., Rochester, Minn.

Two steel rods set into the front of the work bench 2 ft apart make a handy addition for working on cylinder heads, holding a drive shaft for U-joint work and many other jobs. Bolt a section of 2 x 4-in. wood block up under the front of the bench and drill holes through the front of the bench and through the block, as shown, to hold two lengths of ½-in. diameter steel shafting or rod. The ends of the rod under the bench should be swedged to keep them from pulling out. When not in use, the rods can be slid back flush with the front of the bench.







1. Cutaway view of pump. 2. Centrifugal type governor controls both idling and maximum engine speed. 3. Pressure regulator for controlling fuel pressure through entire speed and load range. 4. Shut-down valve for either electrical or manual control. 5. Improved throttle shaft. 6. New gear pump

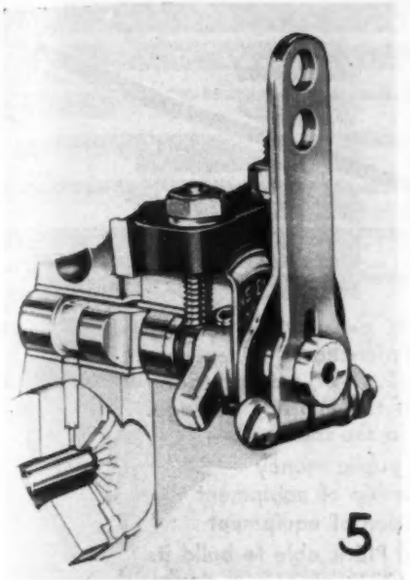
Cummins New PT Fuel

Simplified pumping and metering device described

by J. W. Rowell and C. R. Boll, Cummins Engine Co.

A NEW simplified diesel fuel system, making diesel fuel injection as simple, if not simpler than gasoline engine carburetion and ignition system, was described by J. W. Rowell and C. R. Boll, Cummins Engine Company, Inc., at the recent SAE West Coast Meeting.

This new system, designated as the Cummins PT Fuel Injection System, completely eliminates fuel rack adjustments, high and low pressure check valves, spring loaded needle valves, helixes, distributor discs, metering pumps, high pressure fuel lines, and the necessity for timing the fuel pump to the engine. The system is now standard equipment on ali models of Cummins diesel engines and can be applied to all Cummins diesels built since 1932, thus permitting older engines to be completely modernized.



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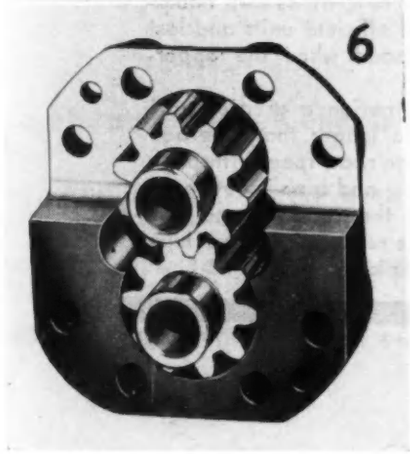

6

System

By making use of one of the simplest types of fluid metering devices known, namely, a fixed orifice with a variable fuel oil pressure behind it, Cummins has greatly simplified the entire fuel injection system. The metering orifice is now a part of the fuel injector located in the cylinder head, thus adding the metering function to the injector.

Although the injector now serves the dual purpose of metering and injecting the fuel, the construction and servicing of the

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West Coast Meeting

Meeting Papers Available

Papers you may want to obtain are listed below. These are available at a cost of 25¢ from the Society of Automotive Engineers, Inc., 29 W. 39th St., New York City.

332—Recent Developments in Power Steering—by R. A. Garrison, Garrison Mfg. Co.

333—True Center-Point Steering—by A. S. Page, Page and Page Co.

335—Automotive Engine Head and Gasket Problems—by L. E. Kassebaum, Consolidated Freightways.

337—Can a Fleet be Over-Maintained?—by D. H. Mikkelson, Los Angeles-Seattle Motor Express.

341—Transmission Developments for Trucks and Busses—by R. W. Schaefer, Allison Division, GMC.

On Multi-Grade Oils

Moore, Kent & Lakin, Union Oil Co.

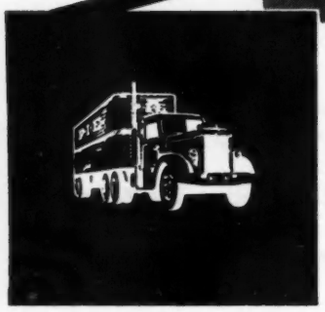
THE development of multi-grade oils is based upon many years of product research and field experience. Multi-grade oils have better viscosity-temperature characteristics than conventional oils—they maintain their viscosity better with increasing temperature, and conversely, do not thicken as much when temperatures drop. This characteristic results in better cold starting, lower engine friction (better fuel economy), and less engine wear. These advantages are accompanied by good oil consumption.

Multi-grade oils have another advantage which is directly related to their ability to reduce octane requirement increase. Some of the newer engines of high compression ratio are showing a tendency toward pre-ignition, which is apparent to the driver as additional detonation or wild ping. Many investigators have noted that multi-grade oils, by minimizing combustion chamber deposits, are effective in reducing pre-ignition.

Frictional wear takes place when metal surfaces make contact. Therefore, wear rates are very high during the first few strokes when starting an engine, since little or no lubricant is present on the cylinder walls. Low viscosity oils reduce wear during this period, since they flow more quickly and replenish the oil film. However, after oil circulation has been established and cylinder wall and ring temperatures have risen to high levels, a more viscous lubricant does a better job of keeping metal surfaces apart.

Accordingly, multi-grade oils, with low viscosities at starting temperatures and relatively high viscosities at high temperatures, can do a good job in reducing frictional wear in typical vehicle service.

There is considerable argument as to whether corrosive wear or frictional wear is more important in engines. However, there is no doubt that a properly compounded ("anti-corrosion"), multi-grade ("anti-friction") lubricant is effective against both types of wear. In simulated passenger car operation, a conventional, heavily compounded lubricant reduced wear by 78 per cent in comparison with an oil which did not contain wear reducing additives. The multi-grade oil, with the same compounding, reduced wear an additional 20 per cent.



PIE spends $19.81 per $100 of revenue on equipment maintenance. Other lines average about $11. Yet transportation costs fall far below the industry average. Why? According to the top brass—

1. The use of public money
2. Direct ownership of equipment
3. High utilization of equipment

With public capital PIE is able to build its own terminals, own 90% of its own equipment, buy the most efficient units and last but not least—expand when the opportunity arises.

PIE power is in motion a greater part of the time due to longer than average hauls, higher average road speeds (through less congested areas) and a policy of keeping equipment on the road around the clock. High mileage reduces costs per mile and ups the profit picture.

FINANCING— Public Ownership Spurs PI

IN JANUARY of this year, PIE startled the industry with the announcement that it would sell 509 of its line-haul semi-trailers and purchase 476 new ones, with 106 of the new units to be completely refrigerated . . . an investment of $2,200,000. Only recently, the ICC has given approval for the purchase by PIE of West Coast Fast Freight and affiliated companies . . . an investment of $3,270,000. In addition, a new one and one-half million dollar terminal is being planned in the Los Angeles area; expansion is also being planned for the Bay area.

All of these facts reflect the picture of a successful company, happy over its vast and highly optimistic about its future. And yet this financial success has been achieved despite an equipment maintenance expense which is nearly 80 per cent higher than the trucking industry average!

At the same time, PIE has a transportation expense which is remarkably low as compared to the industry average. What's the answer? How does PIE do it?

How Pie Does It

To get the answers, in the firm belief that such answers would be beneficial to all truckers, large and small, COMMERCIAL CAR JOURNAL went directly to PIE and to its top executives, such as President Humphries, Executive Vice President Johnson and other company officials.

The answers are crystal clear and simple:

1. The use of public money through extension of ownership.
2. Direct ownership of equipment and facilities.
3. Efficient utilization of equipment.

Pacific Intermountain Express officials are convinced that the typical growing trucking company

	1022 Truck Lines	P.I.E.
Revenue	$100.00	$100.00
Equipment Maintenance Expense	11.06	19.81
Transportation Expense	46.04	29.33
Terminal Expense	14.69	14.17
Sales, Tariff and Advertising Expense	3.02	3.50
Insurance and Safety Expense	5.21	3.01
Administrative and General Expense	7.23	6.16
Depreciation and Amortization	3.67	5.99
Operating Taxes and Licenses	4.81	7.10
	$ 95.73	$ 89.07
Net Operating Revenue	$ 4.27	$ 10.93

This comparison which is in terms of $100 of revenue shows that PIE is spending more in maintenance, sales, tariff and advertising expense than other fleets, but controllable expenses are lower than industry as a whole. Why? See below

By Ken MacDonald

Use of public money enables fleet to buy, and build wisely, own 80% of own vehicles, schedule operations for most efficient utilization of equipment

PIE Growth

which is privately owned "is constantly engaged in trying to lift itself by its own bootstraps." Growth of the privately owned company, these officials believe, is limited by the amount of earnings the company can retain after taxes and plow back into the business.

Public Money Ups Efficiency

"The privately owned company," explains Finance Vice-President Philip Small, "can borrow, up to a point. But it then finds that the lender insists on a certain ratio of net worth to borrowing. It can lease equipment that is not the best for the job at rentals that are not the best for the lessee. It can divide the fruits of its labor with terminal landlords."

The growth of public ownership of PIE is reflected in the fact that in 1941 there were only 63,550 shares of common stock outstanding, as compared with 307,672 shares outstanding at the end of last year.

Small has explained the philosophy of his company in these words: "There is a certain fair-sized highway common carrier, believed because of its initials to be in the specialized business of hauling a type of pastry. For the last seven years this company has consistently had twice as good an operating ratio as the industry average. Capital—public capital—is more than 50 per cent of the answer.

"With public capital, this line has been able to build its own terminals to its own design. It owns its own equipment, built largely to its own design for its particular type of service. It pays reasonable interest rates for its borrowed money, largely because it has a high ratio of equity money to borrowed money, and pays reasonable dividends for its equity money."

Although the average trucking firm leases a large part of its rolling power, PIE runs better than 98 per cent of its line haul operations with its own equipment, not equipment leased from others.

During 1952 a total of 1034 inter-city carriers of general freight totted up a total of 3,594,193,000 vehicle miles, of which only 2,139,623,000 miles were operated with company owned equipment.

During this same period PIE rolled up 39,975,000 vehicle miles, of which 39,031,000 miles involved equipment actually owned by PIE. This means that less than 2½ per cent of PIE's total vehicle miles were accumulated with leased equipment.

The 1034 carriers, as a whole, ran 40.5 per cent of the total vehicle miles with leased equipment, as against 2.4 per cent on the part of PIE. This small percentage of PIE leasing was due, not to desire on the part of the company, but to overflow and inbalance, instances where extra power was needed temporarily.

"When such a need arises," Humphries explains, "and we can haul with one-way equipment, we don't have to worry too much about the problem of getting the equipment back, a costly and profit reducing procedure."

Today, Humphries points out, 17 per cent of all

(TURN TO PAGE 174, PLEASE)

New PRODUCTS

The latest developments in parts, accessories, tools and equipment for the fleet field, described in brief for your convenience

P1. Helper Spring

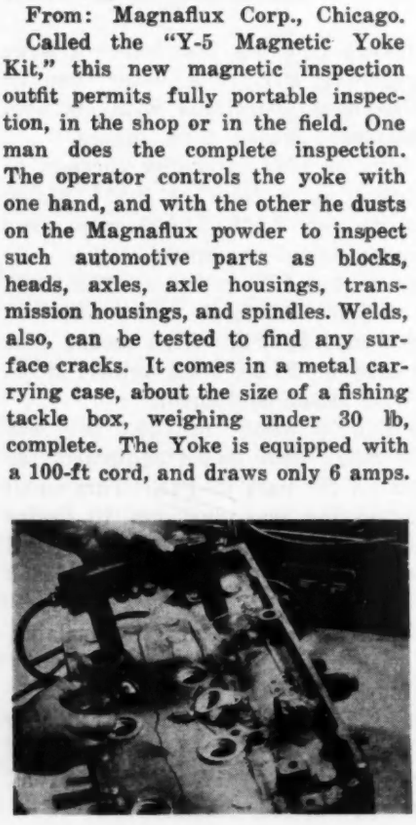
From: Moog Industries, Inc., St. Louis, Mo.

New low-cost overload helper spring for pick-up trucks and passenger cars is a double spring which provides four—instead of the usual two—point suspension. This, the company claims, results in more effective stabilization of up to 1500 lb extra load. Easier installation is also claimed. Only the U-bolts need be removed and the "Xtra-Loader" slides into correct position.

P2. Inspection Tool

From: Magnaflux Corp., Chicago.

Called the "Y-5 Magnetic Yoke Kit," this new magnetic inspection outfit permits fully portable inspection, in the shop or in the field. One man does the complete inspection. The operator controls the yoke with one hand, and with the other he dusts on the Magnaflux powder to inspect such automotive parts as blocks, heads, axles, axle housings, transmission housings, and spindles. Welds, also, can be tested to find any surface cracks. It comes in a metal carrying case, about the size of a fishing tackle box, weighing under 30 lb, complete. The Yoke is equipped with a 100-ft cord, and draws only 6 amps.



P3. Road Flare

From: Buffalo Weaving & Belting Co., Alliance, Ohio.

This new electric road flare for trucks can be seen a half-mile away under normal conditions. Increased brilliance of the light and the 20-in. height of the new patented, cone-shaped flare account for this greatly improved visibility. The steady beam of red light can be changed to a flashing signal simply by twisting the coupling that connects the base and the cone.

P4. Step Fuel Tank

From: The Lintern Corp., Painesville, Ohio.

With new detachable bracket, this fuel step tank transfers up to 75 per cent of tank and fuel weight to the front axle, permitting an increase of payload on other axles. The detachable bracket mounting offers these advantages (1) installation by one man—lower costs. (2) cushioning of tank completely against road shock and chassis torsion. (3) right or left hand mounting. (4) elimination of stress and strain on tank. The tank comes in 40, 50, 60 and 70-gal capacities. It meets the rigid ICC requirements and periodic inspection by the Underwriters' Laboratories.

P5. Heavy Duty Mirror

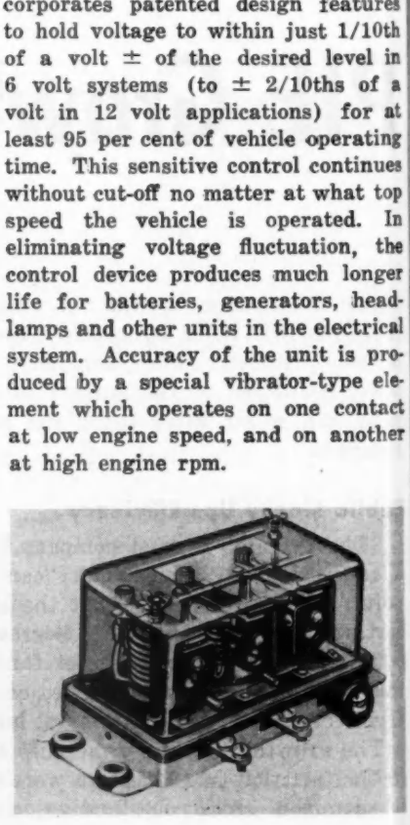
From: The Miro-Flex Co., Wichita, Kan.

Heavy-duty, West Coast type mirror has one piece tubular steel brace arms and heavy-duty housings. The new assembly carries the standard "MiroFlex" 5 x 18-in. mirror head with ribbed steel back and heavily silvered double strength plate glass. This mirror will fit any type of truck.

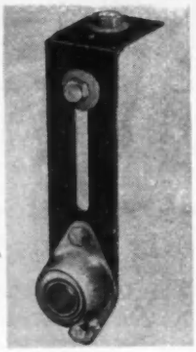
P6. Voltage Regulator

From: Leece-Neville Co., Cleveland, Ohio.

Precision, heavy-duty regulator incorporates patented design features to hold voltage to within just 1/10th of a volt ± of the desired level in 6 volt systems (to ± 2/10ths of a volt in 12 volt applications) for at least 95 per cent of vehicle operating time. This sensitive control continues without cut-off no matter at what top speed the vehicle is operated. In eliminating voltage fluctuation, the control device produces much longer life for batteries, generators, headlamps and other units in the electrical system. Accuracy of the unit is produced by a special vibrator-type element which operates on one contact at low engine speed, and on another at high engine rpm.



P7. PTO Hanger Bearings



From: Muncie Parts Mfg. Co., Muncie, Ind.

"Uni-Hang" universal hanger bearings are designed for use on power take-off drive shaft assemblies. Its primary intent is for dump body and tail gate and other similar applications. The hanger bracket is fully adjustable and easily installed. The bearing assemblies are self-aligning and capable of operating at a high angularity. They are available in either bronze bushing or cast iron. All bearings are supplied with lubricator fittings.

P8. Oil Filter

From: Buffalo Weaving & Belting Co., Alliance, Ohio.

"Econ-O-Pack" filter features a lifetime adapter, a quick way of ejecting the refill pack and a floating cap that constantly flexes the pack according to oil pressure and prevents channeling or uneven wear on any part of the pack.

P9. Battery Chargers

From: Motor Generator Corp., Troy, N. Y.

Three new, different models of battery chargers with 125, 250, and 500 amp capacity are available. Each one is designed for charging both 6 and 1-volt batteries. New features include a one-hour timer and provision for both fast charging and discharging of individual batteries. The 125 ampere Model No. 911 and standard eight-station charging panel are illustrated. Designed for bench mounting, the new panel provides stations for parallel charging of either 6 or 12-volt batteries. It is connected across the "common negative" and "panel positive" terminals provided on the motor generator set.

P10. Rubber Dock Bumpers

From: Bumpers, Inc., East Cleveland, Ohio.

Rubber dock bumpers come in three sizes—36 x 10 x 4½ in., 14 x 10 x 4½ in., and 36 x 12 x 4½ in.—and can be installed on wood, steel or concrete. One size is especially adapted to adjustable loading docks. They are designed not to pack, flatten, freeze or chip.

P11. Rear-End Lamp

From: Columbus Metal Products, Inc., Columbus, Ohio.

All-purpose lamp will fulfill practically all vehicular rear-end lighting requirements. Known as the No. 90 Combination Lamp, the new unit can be mounted in a wide variety of positions on the rear of the vehicle and may be used either singly or in combination as a stop light for regular tail light purposes, to illumine license plates, or for Class A type 1 directional signal use.

P12. Gear Boxes

From: Arrow Gear Co., Broken Arrow, Okla.

Universal rapid reverse gear boxes in single and double output shaft models are rated to handle all models of winches up through 20,000 lb.

These friction reverse gear boxes are capable of transmitting a maximum of 3350 in. lb of torque in the single output shaft model and 6200 in. lb in the double output shaft model. The single output shaft model will transmit up to 55 hp and the double output shaft model is capable of transmitting up to 77 hp. Double end shafts are incorporated in both models. This enables easy mounting on most any type installation without the job of turning the shaft around in case the particular drive should be necessary. With the one directional gear, the gear boxes give a 1:1 gear ratio. They are capable of operating in a forward direction at 1000 rpm and instantaneously shifting to 1000 rpm in reverse.

P13. Door Lock

From: A. L. Hansen Mfg. Co., Chicago.

Sliding door has a double locking bolt, which locks the door in open or closed position. Handle moves from center position to right or left for lifting the striker bolt from locked position, with door either opened or closed. Inside handle integral with die-formed steel bushing. Interchangeable for right or left-hand operation.

P14. Safety Mirror

From: Velvac, Inc., Milwaukee, Wis.

All aluminum safety mirror for trucks and buses is 6 in. wide by 16 in. high, of polished plate glass in a silvery aluminum case and will not rust. It is universal, fits either West Coast bracket and most eastern "West Coast Type" mirror brackets. The head is mounted on a hinged "U" loop that can be swung in by the driver for better clearance.

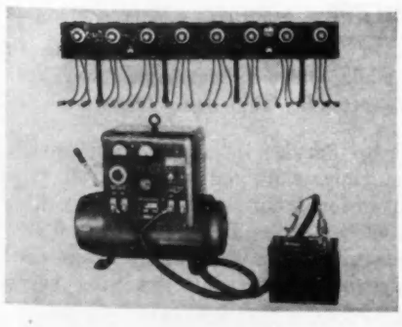
P15. Steam Cleaner

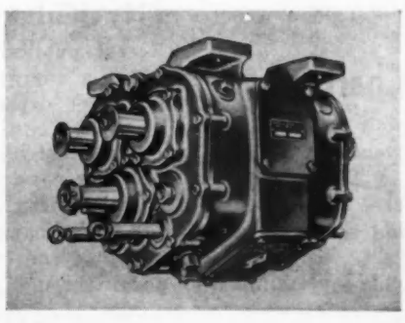
From: Vapor Heating Corp., Chicago.

Portable "Vapor-Clarkson Hydro" steam cleaner, Model No. 4989-G, jets out 1200 gal of hot water an hour at 240 lb pressure.

An automatic 40 hp steam generator in the unit develops 120 lb working steam pressure in two minutes from cold water and over 1100 lb of steam per hour which is directed through a Sellers Injector where the steam heats the water and the pressure is increased by a venturi in the injector. The unit is mounted on a two-wheel trailer, enclosed in a trim metal cabinet. Fuel tanks for eight hours of operation and a float control water supply tank are incor-

(TURN TO PAGE 104, PLEASE)





Free PUBLICATIONS

FOR YOUR CONVENIENCE USE THE POSTCARD ON PAGE 86.

L1. Trailer Interchange Manual

Just compiled by the Trailer Interchange Committee, Regular Common Carrier Conference, American Trucking Assns., this 14-page, pocket-size manual presents recommendations for standard trailer interchange procedures. It is designed to bring about a much greater uniformity of trailer interchange practices voluntarily among motor carriers.

The procedures outlined, drafted by a committee of fleetmen, include (1) acceptance and return of trailers, (2) trailer location reports, (3) trailer accessories, (4) tires, (5) ordinary maintenance, (6) repairs, and (7) arbitration. It includes copies of accepted interchange forms for use by fleets and the Trailer Interchange Contract form developed by the Conference.

For a single copy of this handy summary of trailer interchange practices and information on how to obtain additional copies, circle L 1 on the postcard on page 86.

L2. Bus Driver's Handbook

This shirt pocket-size, 22-page handbook has been prepared by the National Safety Council as a reminder to urban transit bus drivers on how to prevent passenger accidents. Brief text and highly humorous pictures on each page get across an effective message.

It opens by describing the passenger as the most important man in the bus company's operation. It then goes on to describe in interesting detail how to avoid accidents to passengers in boarding, alighting from the bus. It tells how close to the curb the bus should be, how to watch for hazards the passenger might not see in getting off, etc.

Next section of the booklet describes various types of passenger accidents that can happen when the bus is in motion. It tells of the hazards of sudden stops, sudden turns, loose stanchions and other bus equipment.

Single copies of this handy reminder to bus drivers, together with data on quantity orders, are available by circling L 2 on the postcard on the previous page.

L3. Fork Truck Maintenance Chart

On one side of this 17 by 11-in. chart is an outline and space for a complete month's record of preventive maintenance for electric fork trucks. Prepared by Lewis-Shepard Products, Inc., it lists six daily checks, six weekly checks and six monthly checks that should be made to keep the trucks in top condition.

Circle L 3 on the postcard for a copy of this easy-to-follow maintenance chart.

L4. Truck Public Relations Booklet

Latest publication from the Automobile Manufacturers Assn., "What Do You Know About Trucks?" provides an ideal booklet to give away to Rotary, Kiwanis, Lions and other service clubs in connection with talks on the trucking industry. It is not too long—only 12 pages—but it presents the important facts about the business of hauling goods by truck in an interesting and well-illustrated manner.

It opens with a brief summary of the tonnage hauled by trucks and a description of the service they perform. It then analyzes what kinds of trucks there are and tells how the United States leads the world in truck use. It describes the great number employed by the trucking industry and the high volume of highway-use taxes paid by trucks.

You can get a copy of this outstanding public relations booklet, and information on how to obtain additional copies without charge, by circling L 4 on the postcard on page 86.

L5. Battery Care Guide

Allan L. Johnson, auto electricity senior instructor at the Dunwoody Industrial Institute, has prepared this battery care guide for Marquette Mfg. Co., Inc. It's a new revised edition of an old stand-by that opens with instruction on performing load voltage, specific gravity and open circuit or idle voltage tests on a battery. Also included are instructions on fast, slow and trickle charging of batteries.

The guide has several sections on trouble shooting batteries, complete with easily understood reference charts.

Circle L 5 on the postcard to obtain a copy of this guide for your maintenance files.

Fleetman's Library

Recent publications of interest to fleet operators for which a charge is made and new catalogs, data sheets and fleet experience reports from manufacturers . . .

"The Clutch—How to Service It" is a 48-page manual covering construction, operation and repair of all types of solid-friction conventional clutches. Completely illustrated the manual gives a detailed description of the principles of construction and covers operation from clutch pedal through the flywheel. An entire section covers

(TURN TO PAGE 132, PLEASE)

Janesville Sand & Gravel Co.

35 TRUCKS

5004 HORSEPOWER

RUNNING SMOOTHLY, ECONOMICALLY, WITH CITIES SERVICE LUBRICANTS

CITIES SERVICE

For any truck, the heavier the load, the tougher the job. And when that load is cement, and the truck must mix it too, the job becomes doubly tough. It means more working mechanisms, more actual wear points on that truck that must have expert lubrication . . . and the lubricants that have done an outstanding job for Janesville Sand & Gravel Co. are the finest ever produced by the petroleum industry . . . the complete line of Cities Service lubricants.

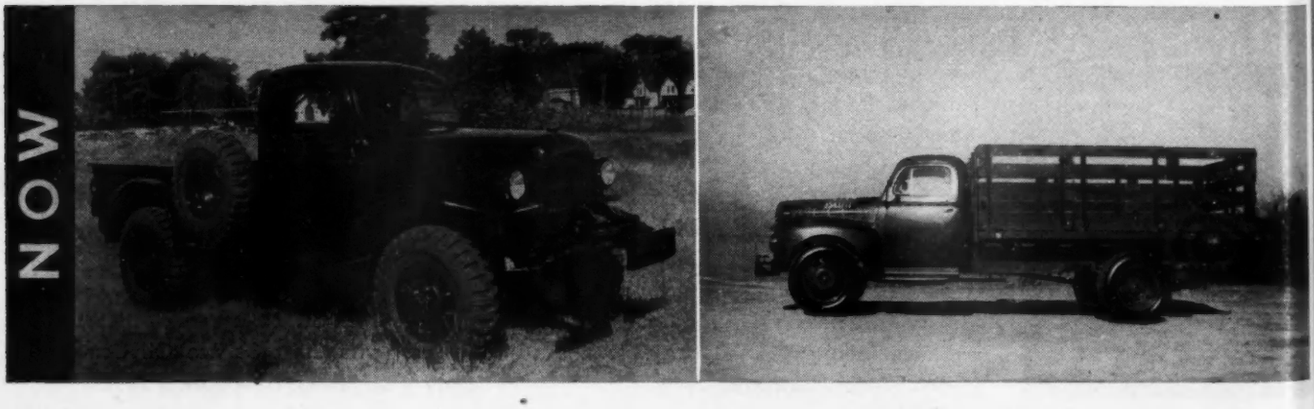
Says George Meyer, Janesville official: "Our experience enables us to recommend Cities Service oils and greases as well as the technical assistance Cities Service lubrication engineers so generously supply."

You'll hear a similar story wherever Cities Service lubricants are used. For better results with your trucks and plant machinery, call your nearest Cities Service representative or write Cities Service Oil Company, Sixty Wall Tower, New York 5, N. Y.

Typical Army motor pool today has both types of vehicles. As military models wear out, they will be replaced with commercial types

Is THIS the Army, Mr. Jones?

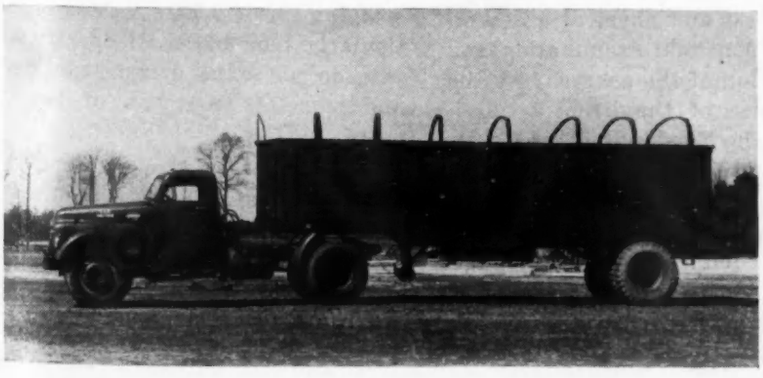
The old familiar stand-bys shown below in the top row—the ¾-ton weapons carrier, the workhorse 6x6, and the 6x6 tractor and semi-trailer combination—are giving way to the commercial produc-



Commercial models, in line at right, are being "drafted" to replace more rugged, more expensive military models shown at left

It uses commercial model trucks, buys parts locally, farms out some overhaul jobs to neighborhood garages, adopts civilian maintenance ideas

tion versions pictured in the bottom row as the Army proceeds with plans to streamline maintenance and operation of our military fleet



IS THIS the Army, Mr. Jones?
No tactical trucks or six by six's.

So might be the parody of Irving Berlin's famous tune sung by any former Motor Transport Service personnel who get a look at the "new look" in army vehicles.

Special military vehicles aren't out entirely. Front-line units and their supporting troops will still use the extra-rugged military models. Surplus vehicles will be found in post motor pools until they wear out.

But, for many of its motor vehicles, the Army is going commercial, including:

1. Purchase and use of commercial production model trucks wherever feasible.
2. Local purchase of parts and some components.
3. In some cases, farming-out to commercial garages major rebuild or ovearhaul jobs.
4. Adaptation, to the extent possible, of commercial fleet maintenance practices.

Here's What Happened

In the past, the Army has used almost exclusively vehicles built to go anywhere, to negotiate the most difficult terrain, to withstand hardships wherever they might operate. This plan has its advantages in a full scale war stretching from the frozen regions of the Arctic to the sands of Equatorial deserts. But it also has serious economic drawbacks.

Every Army post has internal transportation requirements which involve routine tasks much like those performed by taxi, bus and commercial truck fleets. For this purpose it was recognized that better motor transport service could be provided by the adoption of commercial fleet practices at Army post motor pools.

The new program was sparked by the Secretary of the Army who announced that it would be general policy "to utilize commercial vehicles for administrative purposes both in the United States and overseas, to the maximum extent feasible." The Army's Transportation Corps, which has among its members men from the trucking industry and officers trained on special assignments to the industry, was given responsibility for the program. Following the Army's lead, the Air Force and Navy un-

(TURN TO PAGE 121, PLEASE)

Florida Driver School
Turns Out Professionals

Truck association expands testing program to include beginner and refresher driver courses

Before being enrolled in the school, driver applicants must meet physical requirements including visual acuity, being tested above

PRE-EMPLOYMENT commercial vehicle driver training is being tried out in Florida. Conducted in counties where there is a demand, the school is under the sponsorship of the Florida Trucking Assn. and is operated with the active support of the state's Dept. of Education.

The course of study, patterned after those operated on the university level in Michigan, North Carolina, and Tennessee, consists of 60 hours of instruction. The time is divided into 24 hours of lecture work and 36 hours of behind-the-wheel training.

The initial class of 16 students, from Duval County, were enrolled in the course last fall on the basis of recommendation and satisfactorily meeting the requirements of an IQ test and physical examination. Upon final examination and completion of the course, with the assistance of the licensing division of the Florida Dept. of Public Safety, each student was given a limited chauffeur's license. The final event of the course was a roadeo conducted to ATA specifications in which each student completed the course with a creditable score.

James H. Allen, State Coordinator of Commercial Vehicle Driver Training, coordinated the school work with the Florida Trucking Assn. Mr. Allen is a retired captain from the Jacksonville Police Dept. and is a graduate of the Northwestern University Traffic Institute.

Members Supply Equipment

Equipment used in the behind-the-wheel training was provided by the association through the courtesy of its members. Fruehauf and Trailmobile furnished the trailers and Quinn R. Barton, Groff GMC, and Mack furnished the tractors that were used. A tractor-trailer unit, loaded with 20,000 lb of oil in drums, from the storage depot of Seaboard Oil Co., was used to give the students experience in handling a heavy loaded unit. This piece of equipment was supplied by R-C Motor Lines at no cost to the school.

This school is the outgrowth of a program that was started several years ago by the Florida Trucking Assn. The original proposal was for a mobile driver testing laboratory to tour the state and serve association members. Testing devices—including a distance judgment machine, brake reaction time, night vision, glare resistance, field of vision tests and a telebinocular visual survey test—were purchased by the association.

Small Operator Testing

At first the unit was used exclusively for members of the association, but early tests indicated that non-member drivers were also in need of the testing and training service. This seemed particularly true of small operators who do not have driver training and a safety program of their own.

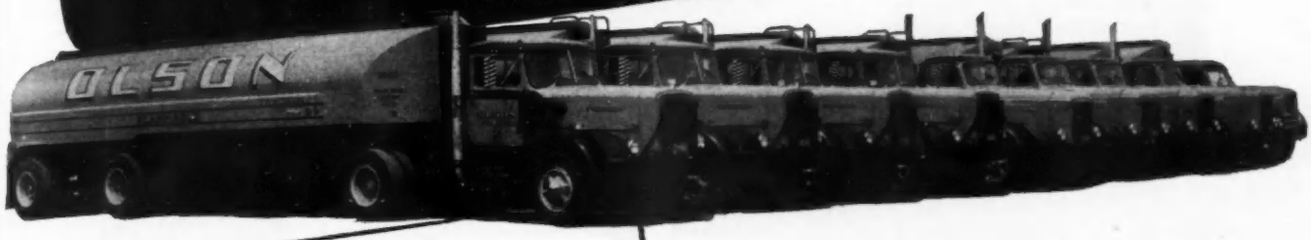
Then the association sought the cooperation of the State Dept. of Education, which has since operated the mobile laboratory for the benefit of all commercial drivers and all employers. Captain

(TURN TO PAGE 118, PLEASE)

"Tachographs

. . . aid in holding down our maintenance costs and serve to increase the rate of efficiency"

says: J. B. Vande Creek, Vice President
Olson Motor Service
Milwaukee, Wisconsin



OLSON MOTOR SERVICE
WAREHOUSING
LOCAL AND LONG DISTANCE TRUCKING

Milwaukee 4, Wisconsin

Wagner Electric Corporation
6400 Plymouth Avenue
St. Louis 14, Missouri

Gentlemen:

For many years in our Trucking operations, we at Olson Motor Service have taken pride in our record of safety, efficiency and customer service. Part of the credit for this record must be attributed to the reliability of the equipment and accessories we employ. R. W. LaFave, our Fleet Superintendent, reports that your Tachographs installed in our motor truck equipment aid in holding down our maintenance costs and serve to increase the rate of efficiency.

During the ten years we have used the Tachographs, many benefits have been derived both from a driver and management standpoint. Most important, the management of this company finds that these instruments serve in recording road speeds consistent with company policy as well as record other characteristics demonstrating the efficiency or inefficiency among drivers. We particularly find that where the M.P.H. Tachograph is used in conjunction with the R.P.M. instrument, we can ascertain weakness among drivers where they may be inclined to lug motors. The Tachograph charts are then used for demonstration purposes to show drivers how they may improve their driving efficiency and preclude excessive motor wear.

Very Truly Yours
OLSON MOTOR SERVICE

J. B. Vande Creek
Vice President

What Mr. Vande Creek of Olson Motor Service says is absolutely correct. Tachographs do materially assist fleet operators in reducing costly maintenance and in increasing operation safety and efficiency.

Tachographs can do the same for you, too. Both you and your drivers gain valuable benefits when each vehicle in your fleet is equipped with a Tachograph. The durable aluminum case houses the accurate recording instruments that chart such important information as:

- **When engine started**
- **When vehicle was in motion**
- **How long engine idled**
- **Distance traveled between stops**
- **When vehicle stopped**
- **How fast vehicle traveled**

Don't be misled! Tachographs are your drivers' friends. They help make good drivers better drivers. Tachographs visually show time of day, speed, and total mileage. A red light warning signal helps driver maintain predetermined speed. It flashes on when this set speed is exceeded.

Get the entire "inside" story on your vehicles' operations by installing Tachographs. Mail the coupon below for catalog SU-3. It gives you complete information on how you can benefit by having a graphic record of each trip. Tachographs are available in two types—R. P. M. and M. P. H.

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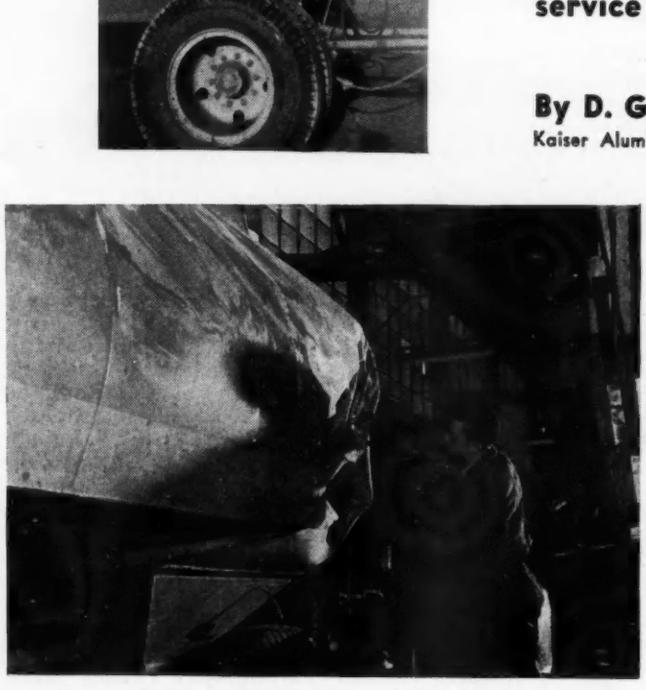
We operate_____ (NUMBER) Vehicles

Aluminum Tank Repair

Here's the step-by-step procedure used to put a frameless aluminum full trailer back in service after it took a 75-ft slide over a cliff

By D. G. LaRue, Product Development Engineer, Kaiser Aluminum & Chemical Corp.



At top. Front-end detail shows typical damage to tank. Fig. 1. Above. Acetylene torch cuts away damaged section. A rotary power saw was used later to cut aluminum tank

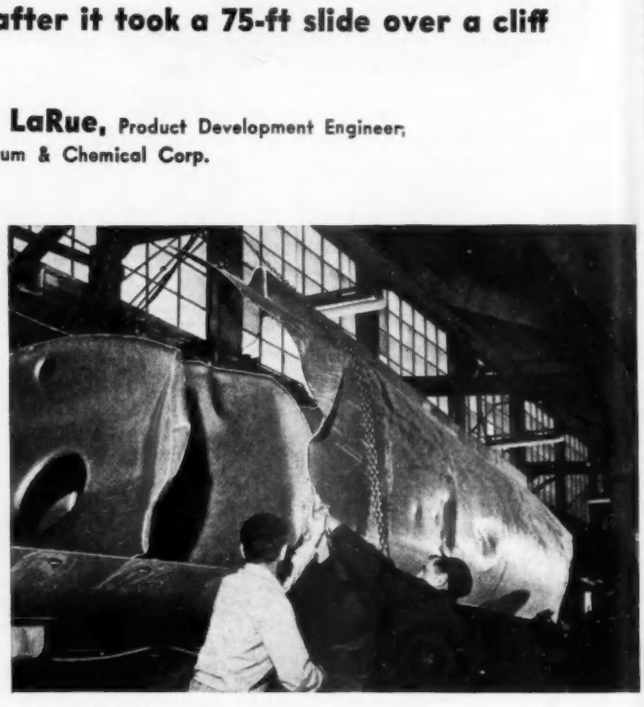


Fig. 2. Entire damaged side and top roll-over rail were removed in one piece after being cut loose with power saw. Hose carrier tube was also cut away entirely in one piece

Fig. 3. Although all interior baffles were bent by the impact, no deflection or distortion of the shell had occurred, considerably reducing required repair manhours

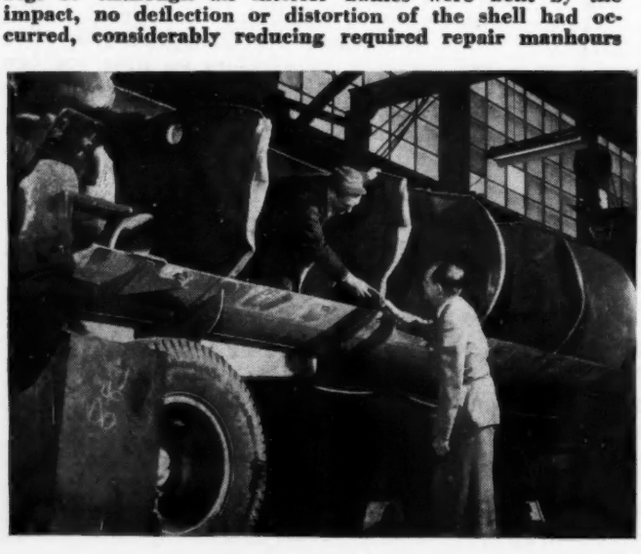


Fig. 4. Sufficient area from the front and rear heads was cut away to eliminate damaged parts and to permit access for welder to work inside after replacing side

Is *Easy!*

With interior welding done, final steps are to piece out end caps and replace hose carrier tube. Completed job is ready for painting

ALUMINUM petroleum tanks can withstand the same, or greater rough treatment and can be repaired as easily and economically as high-tensile steel equipment. The following illustrations show some of the repair steps employed by the Industrial Steel Tank & Body Works to a damaged tank.

This entire operation took 340 hours or 15 per cent below what had been established by the company using experience in steel tank repair as a guide. While this repair job was extensive in nature, it proved far more economical than replacement with a new unit, due to the ease of the repair.

Downhill Slide

The tank train, the full trailer of which is shown above, consisted of a 4300-gal truck tank and a 5100-gal, fuel frameless trailer with non-compartmented tank. This fully loaded trailer hauling gasoline broke loose and plummeted over a 75-ft cliff. The upper side of the shell was heavily dented along the entire length of the tank. The damage apparently occurred as the unit slid downhill on its side.

Welds were torn loose in several places where the front tripod and rear sub-frame were attached to the tank. Some 10 per cent of the weld joining support members to the tank shell failed. While baffles and heads were still in place, approximately 35 per cent of the weld inside the tank and joining the baffles to the shell had fractured. There was considerable deformation of the baffles in the immediate area of impact.

Despite this damage there was only 10 per cent of the load lost through a ten-inch rupture in the tank at the front.

Because the shell and running gear alignment was undisturbed, it was possible to work on the tank in an upright and unsupported position. Thus the time-consuming complete breakdown of the equipment and need for an assembly jig were eliminated.

Repair Procedure

The job was done completely in the shop by the following procedures:

Using a power rotary saw with a metal cutting blade instead of the slower acetylene torch and chipping hammer (Fig. 1) used at

(TURN TO PAGE 126, PLEASE)

Fig. 5. At left are the five interior baffles ready to be put back into the tank after being re-shaped by hand over the original steel die used in making the trailer

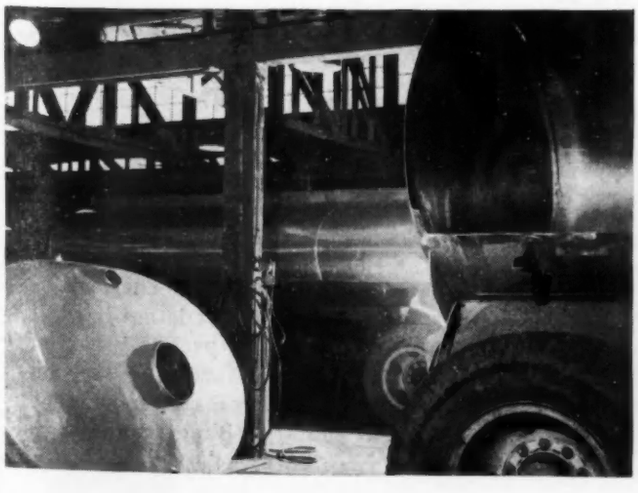
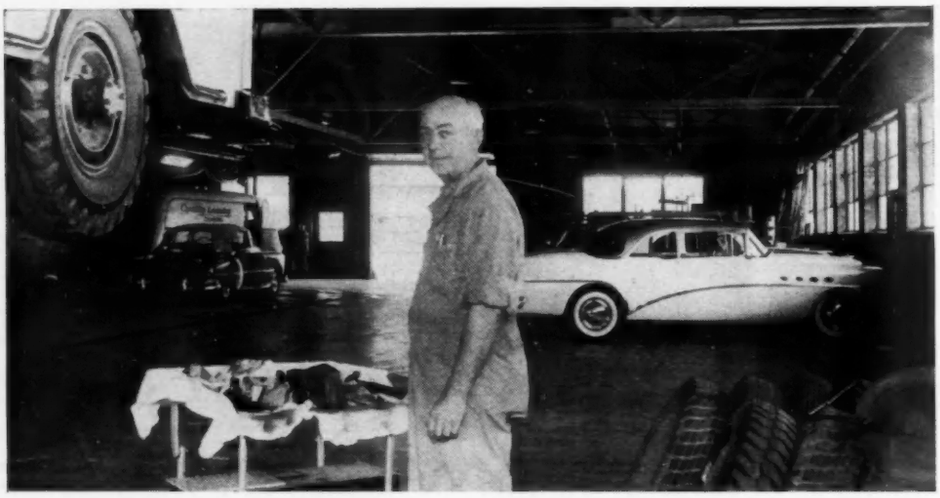


Fig. 6. With baffles tack-welded in place and side in position, the entire assembly is joined with continuous welds using an inert gas system and No. 43S filler wire



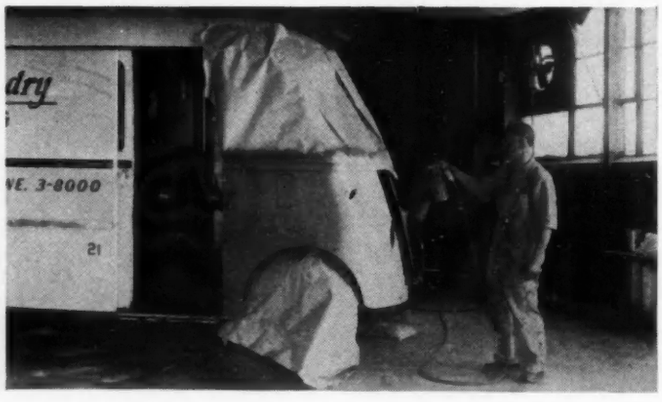
Inside storage in this garage and a double coat of clear varnish every two years keeps Quality's paint jobs looking fresh for an average of seven years

By Fred L. Rounds
Garage Superintendent
Quality Laundry, Detroit

Quality Laundry Charms Housewives

Appearance makes this fleet a success in selling laundry service. Here's how it keeps its paint jobs bright and fresh an average of seven years before repainting

Four quarts of clear varnish, thinned ten per cent with reducer, are sprayed on with 69 lb nozzle pressure. Work is done in sections, and second coat is applied before first one is fully dry and before going on to the next section



IF WE could be said to major in any segment of maintenance, we would say it is in keeping our fleet of 54 Metro-type Internationals looking as nearly like show trucks as we can.

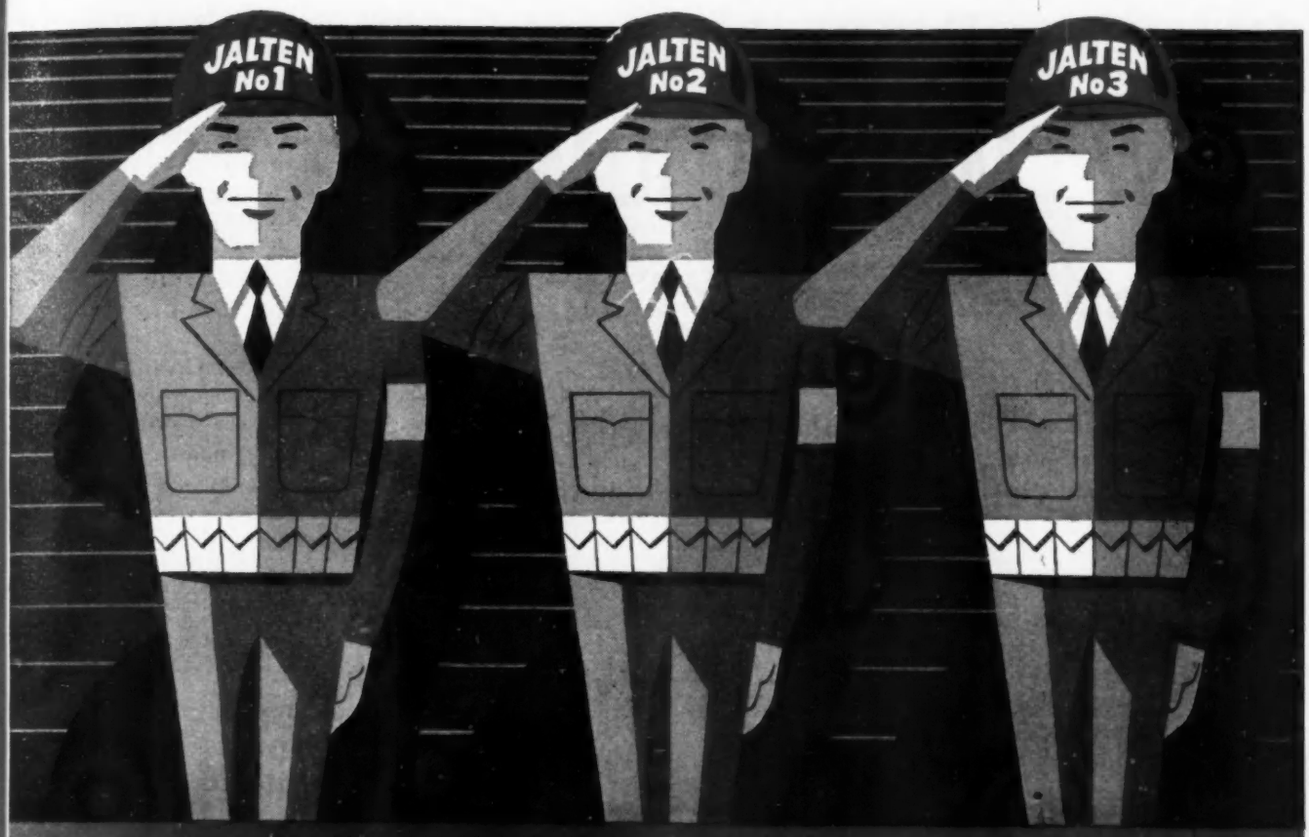
In running one of Detroit's largest laundries catering to the housewife, our motto is "The Wife-Saving Station for Twenty Thousand Housewives." We have found that part of the success of our business hinges directly upon the fine appearance of our trucks and their appeal to the housewives. We had better make deliveries in a handsome truck or else . . .

Appearance Emphasis

Taking cognizance of this fact, the management of Quality Laundry insists upon a good-looking fleet at all times with the result that a goodly portion of our garage work is devoted to taking care of this appearance. The work connected with this effort is not hard, it is not complex, but it probably has more bearing upon the success of our business than any other maintenance factor.

One of the first things we did to help

(TURN TO PAGE 160, PLEASE)



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THEY'RE ALL JALTEN!

J&L's New JALTEN series enables you to select low-alloy, high-strength steel in the following combinations of advantages:

JALTEN No. 1 — High strength, good formability and fabricating —good resistance to low temperature impact.

JALTEN No. 2 — High strength, moderate forming—improved resistance to atmospheric corrosion.

JALTEN No. 3 — High strength—improved resistance to abrasion.

Remember to specify JALTEN High Tensile Steel for

- **HIGH STRENGTH** • **RESISTANCE TO CORROSION**
- **GOOD FORMABILITY** • **RESISTANCE TO ABRASION**

J&L STEEL

Jones & Laughlin
STEEL CORPORATION — *Pittsburgh*

The data you want is in this book:

- Chemical Properties of Jalten
- Mechanical Properties of Jalten
- Jalten Equivalents
- Jalten Application Data

Jones & Laughlin Steel Corporation
Dept. 432, 3 Gateway Center, Pittsburgh 30, Pa.

Please forward a copy of your booklet, Jalten low-alloy, high-strength steel.

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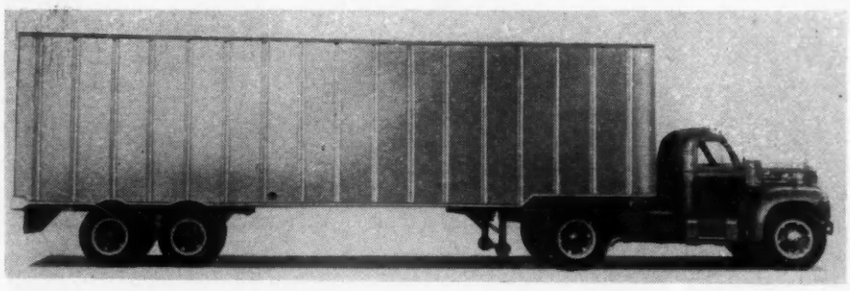
Address_____

NEW "MACKSIMUM"

Features Contour Cab

It will pull a 35-ft, high-volume, square-front trailer and still be within 45-ft overall length



With cab rear contoured to fit nose of 35-ft, high-volume trailer, king pin can be set as far as 18½ in. ahead of rear axle on new "Macksimum" tractors

MACK Trucks, Inc., has announced a new conventional tractor designed to pull high volume trailers. The new "Macksimum Contour Cab" tractors are basically the B-60LT and B-61LT tractors with a redesigned cab which is contoured to the radius of the trailer nose. Designed specifically to haul the latest 35-ft, high-volume square front trailers in the 55,000 to 65,000 lb GCW range, these units still stay within the 45-ft overall length restriction.

With this rear contour, corner clearances—even with the kingpin set as far as 18½ in. ahead of the rear axle—exceed the minimums recommended by trailer manufacturers and ATA.

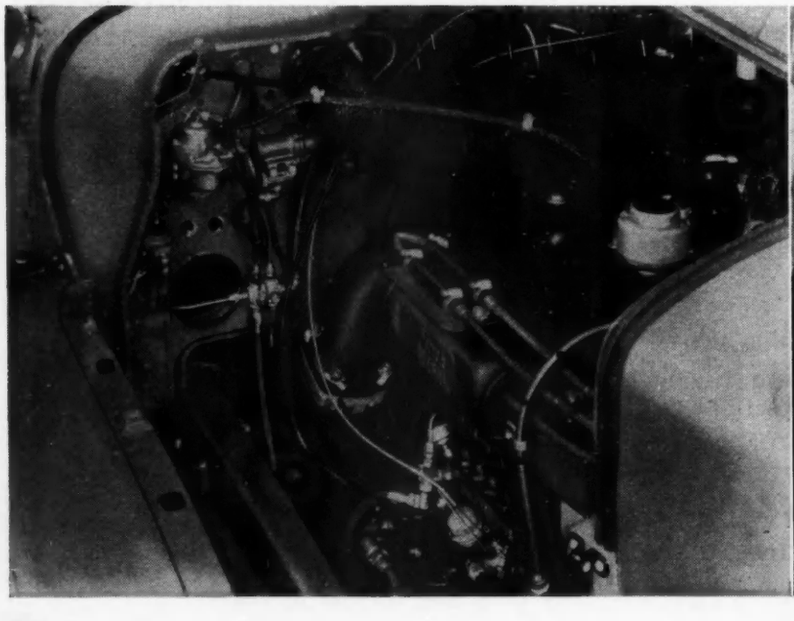
Changes have been accomplished without sacrifice of engine accessibility or driver comfort, according to the company. The same frame used on conventional models with full cross members and undistorted side rails are used. Cabs have the removable catwalks and fenders, easy-access fuses and drop-out window mechanisms and instrument panels.

Regular Options

All the regular options of the Mack line are available in the new "Macksimums," including a choice between the Mack Thermodyne EN-464 gasoline engine in the B-60LT or the Mack Thermodyne diesel END-673 in the B-61LT.

The gasoline engine has 464 cu in. displacement and delivers a maximum torque of 370 ft lb at 1000 rpm. The diesel, which adds only 525 lb with air starting, has 672 cu in. displacement and maximum torque of 480 ft lb at 1200 rpm. Both are 170-hp engines.

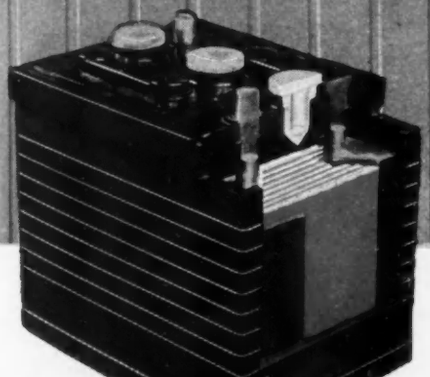
Cab design permits maximum under-the-hood engine accessibility for ease of maintenance. Removable fenders, drop-out instrument panel are also featured



Interior view shows space inside cab free of engine tunnel or projection

Protects batteries against vibration damage!

U. S. Peerless MICROPOROUS Rubber Separators!



Write to address below for free copy of informative booklet on the high-performance, low-upkeep U.S. Peerless Rubber Battery Separators.

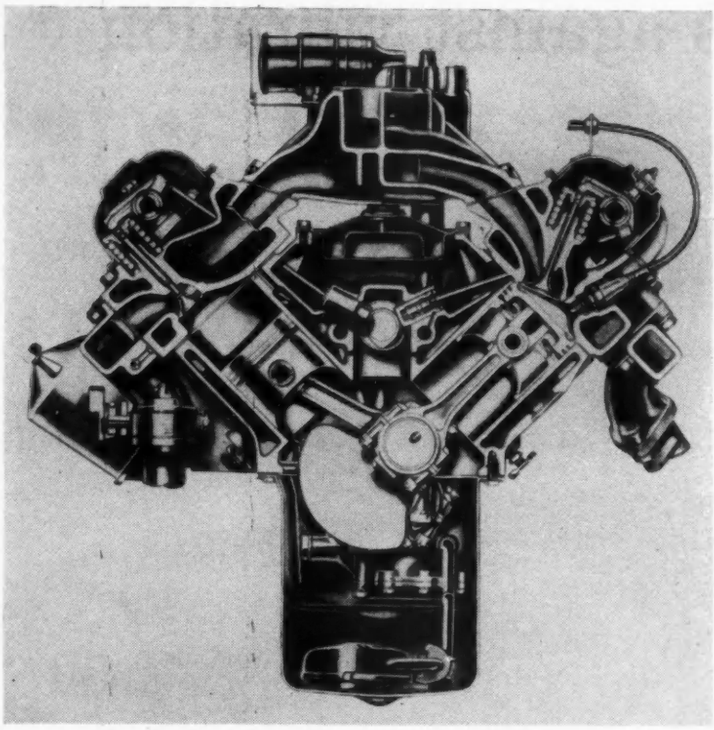
The automotive battery takes a lot of vibration and jarring, causing the plates to damage the ordinary battery separator—resulting in shorts and battery failure. But this doesn't happen when the separators are U. S. Peerless. *These rugged separators stand up under vibration, give longer service than any other separator.* They are known as battery savers.

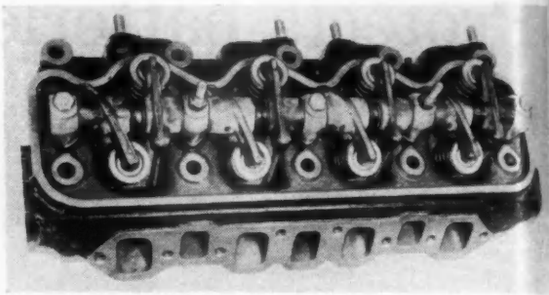
U. S. Peerless has other big advantages: it cannot be harmed by battery acid, heat or plate pressures—will not get mushy or soft in service. High mechanical strength prevents cutting by warped plates or loose plate material. Peerless even *outlasts* the plates. It assures more economical operating costs. In cold weather, it gives 20% faster cranking speed, 10% more power. *Protect your battery investment* by making sure your batteries have Peerless Rubber Separators.

UNITED STATES RUBBER COMPANY

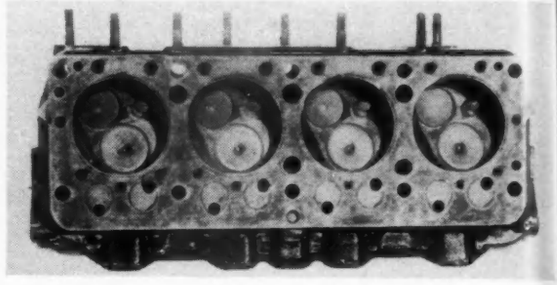
Electrical Wire and Cable Department • Rockefeller Center, New York 20, N. Y.

US RUBBER





Above. Exhaust valves are perpendicular to cylinders, allow use of a single valve rocker arm shaft. At left. Engine has dome-shaped combustion chambers with spark plug located outside valve cover. Below. Cylinder head detail shows valve arrangement in combustion chamber and spark plug location



DODGE INTRODUCES NEW 145 HP V-8

Develops .601 hp per cu in. displacement with a 3 7/16-in. bore and a 3¼-in. stroke. The compression ratio is 7.5 to 1

A NEW 145-hp "Power-Dome" V-8 truck engine is now available for Dodge pick-ups, panels and low-tonnage stakes. Piston displacement is 241.4 cu in. This engine develops .601 horsepower per cubic inch of displacement. Compression ratio is 7.5 to 1.

The new engine offers high road speed with low fuel consumption, and improved acceleration ability.

Low-Friction Design

Maximum gross torque of 215 lb ft is developed at 2400 rpm. The V-8 engine is economical to operate and maintain because of its low-friction design with a large bore of 3 7/16 in. and a short stroke of 3¼ in.

Cylinder heads are made of special chrome-alloy cast iron, said to have superior wear characteristics, making it feasible to eliminate valve seat inserts and valve guides. At the same time, this integral design promotes better heat transfer. The heads are fully interchangeable, thus making for easy servicing.

The overhead valves with single valve springs are mounted slightly offset. Wide valve spacing of this character is responsible for high volumetric efficiency, provides room for improved circulation of coolant.

Combustion chambers are of modified hemispherical form, the spark plug location being instrumental in providing a short, direct path of flame travel. Spark plugs —14 mm resistor type—are located outside the valve cover and are easily accessible.

Rocker arms are of malleable iron, flame hardened at both ends.

"...250,000 miles between overhauls with T5X"

H. J. Larson, superintendent of maintenance,
Oregon-Nevada-California Fast Freight, Inc., San Francisco, California

"We've extended the overhaul interval in our over-the-road equipment as much as 100,000 miles by using Union's T5X motor oil.

"This means that some of our rigs are logging up to 250,000 miles between major overhauls with T5X in the crankcase. Our 65 KWs with the 225 Cummins diesels average 90,000 miles per year... and over a wide range of road conditions. Our drivers may leave San Francisco in 70° weather and shortly be fighting —20° temperatures on Donner Summit or sweltering at 120° along the valley routes... all in the course of a routine trip. We've been using T5X since 1946 and have never found anything that does the job so well."

If you're not using T5X in your equipment, it will pay you to give this amazing purple oil a try. Immediate service from your nearby Union Oil representative.

76 UNION OIL COMPANY
OF CALIFORNIA

Los Angeles: Union Oil Bldg. • New York: 45 Rockefeller Plaza • Chicago: 1612 Bankers Bldg. • New Orleans: 644 National Bank of Commerce Bldg. • Atlanta: 401 Atlanta National Bldg. • Kansas City, Mo.: 921 Rialto Bldg.

1954 New Truck Registrations by Makes by States*

STATE AND MONTH		Auto-car	Brock-way	Chev-rolet	Dia-mond T	Dodge	Ford	G.M.C.	Interna-tional	Mack	Reo	Studе-baker	White	Willys	All Others	Total
Alabama	June	1		566	1	70	397	82	90	1	1	2	11	2	1	1,225
	6 Mos.	5		2,997	6	482	2,532	570	664	36	5	47	88	58	10	7,500
Arizona	June	2		251	1	43	258	62	55			6	5	25	6	714
	6 Mos.	4		1,133	10	277	1,225	400	280	4	6	32	20	85	23	3,490
Arkansas	June			531		54	580	127	88	2		11	5	5		1,403
	6 Mos.			2,888	12	362	2,865	833	525	10	4	83	33	49	1	7,665
California	June	14		2,366	35	439	2,659	527	371	27	20	92	168	196	81	6,996
	6 Mos.	48	3	11,395	114	2,658	10,686	3,062	2,004	90	66	397	317	713	379	31,962
Colorado	June			292	2	47	227	78	85	2		10	2	61	6	812
	6 Mos.	5		1,742	6	314	1,446	510	499	22	21	54	23	215	46	4,903
Connecticut	June	3	1	227	4	43	209	75	72	16	5	14	3	9	12	693
	6 Mos.	32	13	1,154	20	309	1,044	328	404	92	32	60	47	67	71	3,673
Delaware	June			87		14	73	10	16	2		4		2	5	213
	6 Mos.	2	5	490	2	101	340	130	131	24		14	5	16	9	1,269
District of Columbia	June			118		48	104	24	25		1	1	2	3	4	330
	6 Mos.	1		416	14	107	379	98	107	7	4	6	32	17	25	1,213
Florida	June			687	3	107	858	149	131	24	6	26	22	64	2	2,079
	6 Mos.	5		3,548	41	702	4,001	973	843	154	57	171	199	438	42	11,174
Georgia	June			621	2	99	741	118	156	7	1	22	9	28	4	1,808
	6 Mos.	5	5	5,069	17	1,052	5,084	1,289	1,429	82	49	320	141	147	19	14,709
Idaho	June			190	1	37	183	61	58	7		8	3	37		595
	6 Mos.			920	3	201	835	380	305	20	3	37	13	143	21	2,881
Illinois	June			1,288	27	194	1,491	245	493	10	24	47	35	49	11	3,914
	6 Mos.	14		7,153	242	1,455	6,632	1,442	2,884	61	58	291	235	239	152	20,859
Indiana	June	1		875	5	118	1,023	88	270	5	8	40	50	17	5	2,505
	6 Mos.	24		4,635	52	921	4,480	866	1,824	42	46	305	311	112	92	13,710
Iowa	June			662	8	87	645	80	182	3		24	8	3	1	1,703
	6 Mos.	1		3,575	48	549	3,410	569	1,338	18	10	152	50	48	32	9,801
Kansas	June			813	2	58	782	123	154	1		22	7	17		1,979
	6 Mos.			3,392	23	420	3,140	810	928	5	6	145	46	79	5	8,999
Kentucky	June			592	7	60	676	120	97	2	4	17	10	17	4	1,606
	6 Mos.	2		3,192	26	433	2,989	683	684	20	26	90	78	128	41	8,392
Louisiana	June	1		723	2	82	704	123	140	2		28	7	11	2	1,825
	6 Mos.	1		3,724	18	587	3,562	825	862	29	4	144	62	126	14	9,988
Maine	June			227	1	38	299	64	50	6		12	5	13	2	717
	6 Mos.		1	841	7	187	907	275	206	31	3	50	32	96	9	2,644
Maryland	June		1	318		78	364	74	75	5	2	8	8	7	10	950
	6 Mos.	10	14	1,753	7	752	1,662	387	462	85	12	46	57	46	35	5,328
Massachusetts	June	14	6	346	9	104	722	90	110	37	14	18	37	15	32	1,544
	6 Mos.	55	34	1,934	33	610	2,669	441	586	145	76	99	179	142	101	7,104
Michigan	June	5		1,533	13	256	1,637	256	207	9	6	32	13	29	33	4,029
	6 Mos.	25		6,885	71	1,498	7,235	1,408	1,061	67	69	145	171	178	186	18,999
Minnesota	June			768	6	110	818	119	213	7	4	22	10	13	11	2,101
	6 Mos.			3,276	26	613	3,260	717	1,282	36	20	130	42	105	57	9,564
Mississippi	June			619		62	633	129	124	3		11	9	14		1,604
	6 Mos.			3,549	1	365	3,019	835	702	15		79	15	58	3	8,641
Missouri	June	1		769	3	77	700	126	140	1		27	9	24	1	1,878
	6 Mos.	1		4,696	26	769	4,205	1,186	1,238	51	17	174	148	102	37	12,850
Montana	June	1		188	1	36	196	57	84	11	2	17	3	52	5	655
	6 Mos.	2		1,075	6	199	1,012	358	464	22	5	74	14	205	19	3,455
Nebraska	June			486	3	58	466	89	146			12	4	19	28	1,311
	6 Mos.	3		2,255	49	306	2,145	518	876	15	3	79	40	138	64	6,491
Nevada	June			73		22	88	20	12			18		9		242
	6 Mos.			290		73	324	123	57	5		40	1	36	2	951
New Hampshire	June		2	139		36	81	41	29	5	1	2		26		362
	6 Mos.	4	6	584	4	144	450	154	144	27	9	23	9	92	14	1,684
New Jersey	June	12	15	679	13	178	705	154	180	52	3	34	42	37	30	2,134
	6 Mos.	52	111	3,444	73	946	3,533	1,133	1,055	258	26	170	271	131	174	11,377
New Mexico	June	2		208	1	25	185	65	46	4		10	2	17	3	568
	6 Mos.	6		1,333	7	193	1,007	410	279	44	4	50	38	102	5	3,479
New York	June	2	50	1,341	14	396	1,515	312	459	92	55	49	81	107	16	4,489
	6 Mos.	101	242	6,710	103	2,335	6,943	1,586	2,455	398	181	256	434	462	156	22,360
North Carolina	June			1,296		87	548	102	127	42	1	17	17	19	5	2,261
	6 Mos.	4		4,451	27	610	3,206	783	690	144	11	135	153	103	19	10,336
North Dakota	June			178		31	192	28	81			3		9		522
	6 Mos.			751		145	831	188	467	3		38	2	37	1	2,481
Ohio	June	1	2	1,123	10	270	1,308	182	304	27	24	33	55	24	10	3,373
	6 Mos.	22	5	6,331	52	1,643	6,969	1,246	2,066	141	138	237	417	225	118	19,610
Oklahoma	June	1		742		67	676	151	148	10	2	21	21	21	5	1,865
	6 Mos.	4		3,416		379	3,137	833	777	26	12	113	78	58	38	8,839
Oregon	June	5		584	5	108	477	145	141	18		18	6	85	25	1,615
	6 Mos.	12		1,909	33	409	1,792	686	593	70	2	76	54	264	87	5,987
Pennsylvania	June	7	29	1,358	16	351	1,598	301	504	51	22	62	89	38	26	4,452
	6 Mos.	53	158	6,249	73	2,100	6,469	1,436	2,491	237	117	271	426	245	203	20,533
Rhode Island	June	3	1	64	5	18	112	10	24	4		6	1	5	3	256
	6 Mos.	19	1	371	25	126	440	63	111	23	1	28	19	16	8	1,251
South Carolina	June			895		122	378	54	53	3		15	7	5		1,532
	6 Mos.	2		2,346	5	560	1,734	305	308	35		59	40	29	6	5,429
South Dakota	June			107	1	25	148	34	45			11		8		379
	6 Mos.			730	16	144	735	258	490		2	42	6	80	3	2,506
Tennessee	June			840		84	630	103	135	5		15	6	6		1,624
	6 Mos.	1	1	3,687	6	636	3,395	885	825	67	5	100	239	53	18	9,918
Texas	June	14		3,363	13	299	2,711	447	524	34	6	75	147	79	32	7,744
	6 Mos.	59		14,935	47	1,747	12,465	2,701	2,948	151	45	334	711	373	94	35,640
Utah	June			140	2	49	164	66	68	11	4	5	1	43	6	559
	6 Mos.			635	6	134	503	259	253	22	7	21	11	87	18	1,954
Vermont	June			122		26	124	37	32	1		10		8		360
	6 Mos.	2	4	401	1	114	449	147	175	11	2	28	6	84	10	1,434
Virginia	June	4		587	2	119	742	125	178	17	1	21	21	15		1,832
	6 Mos.	13	9	3,040	5	785	3,233	682	723	94	29	132	98	131	31	9,005
Washington	June			572	2	155	500	198	184	3	2	19	4	99	12	1,750
	6 Mos.	1		1,864	15	655	1,859	804	726	19	14	68	26	245	73	6,369
West Virginia	June			198		47	214	65	37	38		7	8	18		632
	6 Mos.	6		1,247	7	309	1,152	372	266	54	2	35	35	129	18	3,632
Wisconsin	June	9		566	3	82	680	90	197	2	5	27	15	18	17	1,711
	6 Mos.	16		2,629	15	553	2,771	622	1,112	22	25	140	112	123	90	8,430
Wyoming	June	1		166	1	17	126	38	36	1	1	2		29	1	419
	6 Mos.	2		695	4	104	564	204	226	10	1	22	4	155	9	2,000
Location Not Determinable	June															
	6 Mos.			72			1		9							82
Total	June, 1954	104	107	31,284	224	5,033	31,349	5,854	7,176	608	225	1,013	968	1,457	437	85,859
Total	June, 1953	185	174	28,801	259	6,695	19,255	7,509	8,311	580	262	2,030	1,133	1,434	571	77,199
Total	6 Months, 1954	624	611	152,207	1,405	31,083	144,726	35,796	41,934	3,042	1,235	5,670	5,590	7,010	2,689	433,519
Total	6 Months, 1953	919	1,045	173,622	1,701	46,684	115,561	45,058	52,895	3,403	1,878	13,602	6,379	9,730	3,007	475,494

* Data from R. L. Polk & Co.

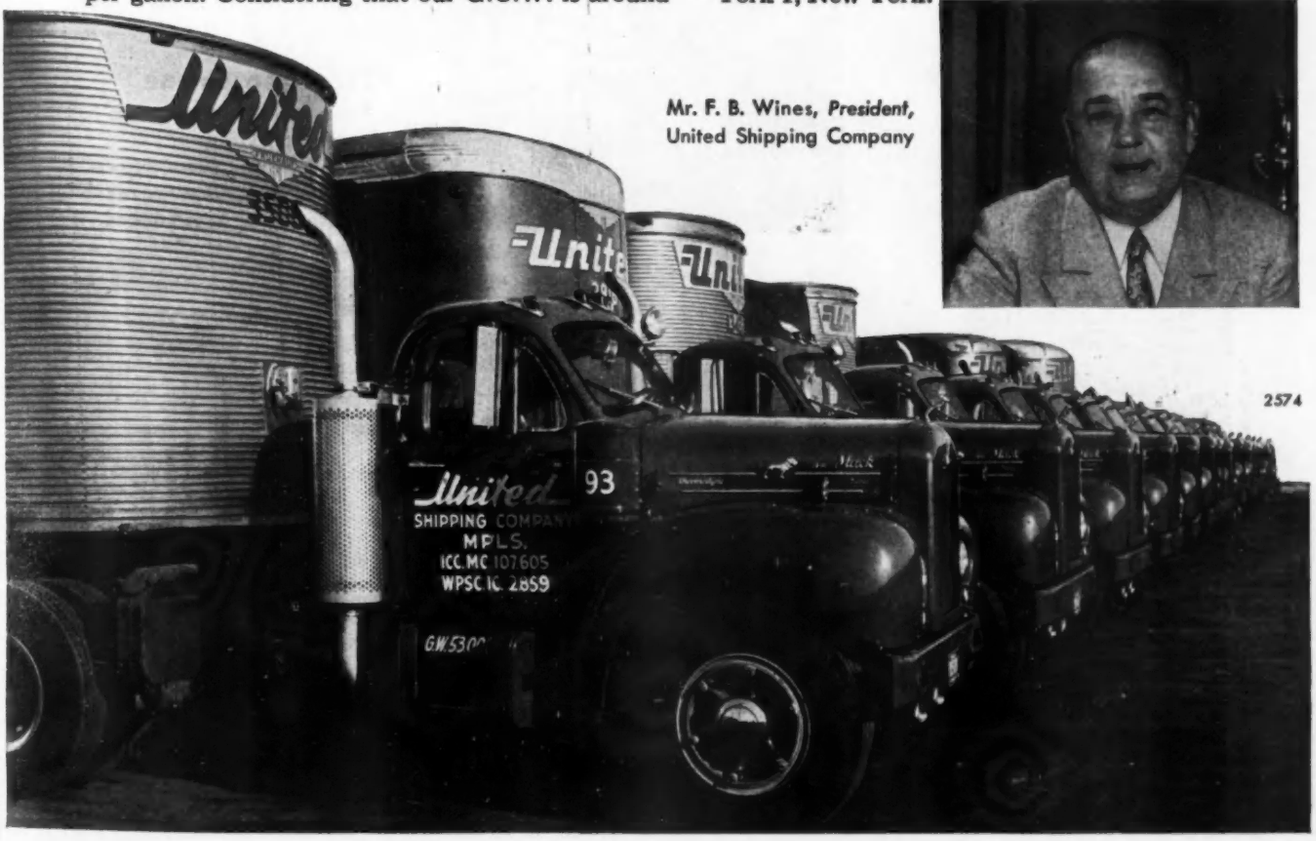
United Shipping Company backs its slogan with Mack Thermodyne® Diesels averaging 7.6 miles per gallon

Recent addition of 17 Mack B-61 diesel tractors gives United Shipping Co. of Minneapolis an over-the-road fleet that's 100% Mack. Besides satisfying all performance requirements, these Mack Thermodyne diesels are doing their job with "phenomenal fuel economy"—*7.6 miles to the gallon.*

Here's how Mr. F. B. Wines, president, explains it in his own words: "Some of our engines are over the 120,000-mile mark and at present our fleet average in fuel consumption is 7.6 miles per gallon. Considering that our G.C.W. is around 53,000 lbs., we feel that we are getting remarkable mileage while experiencing excellent performance. From all apparent indications, the long life of this engine is also going to be an extremely attractive item."

The experience of the United Shipping Company adds still another name to the ever-growing list of enthusiastic owners of Mack Thermodyne diesels. It will pay you to join them. See your nearest Mack branch or distributor. Mack Trucks, New York 1, New York.

Mr. F. B. Wines, *President,*
United Shipping Company



New Product Descriptions

Continued from Page 87

porated in the cabinet. High pressure steam hoses and a cleaning gun are included. Steam generator automatically cycles on and off to hold the working steam pressure. A 4.5 hp gasoline engine drives the steam generator's feed water pump, blower, fuel pump and magneto for constant ignition, or a 2 hp electric motor may be used. Steam pressures can be changed from 75 to 290 lb pressure by adjusting one control. The steam generator consumes nine gallons of fuel-oil per hour when running steady. It is equipped to do cleaning in three ways (1) by jetting out 180 deg water under 240 lb pressure, (2) by jetting hot water under pressure mixed with a cleaning detergent and (3) by steam cleaning with or without detergents.

P16. Liner Puller

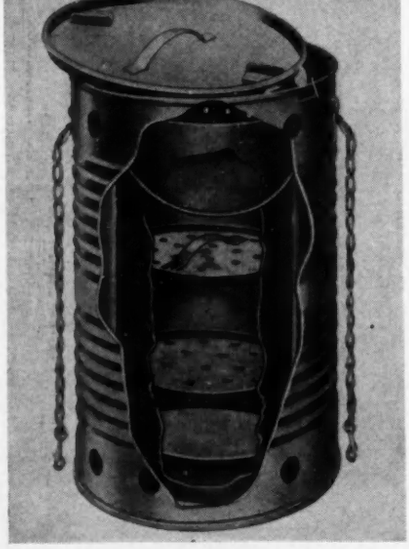
From: B. K. Sweeney Mfg. Co., Denver, Colo.

Cylinder liner puller for truck and bus engines can be used with engine on or off the frame. Built on the cam-action principle, the new puller employs special anchor brackets, pullers plate and leverage handles.

P17. Charcoal Heater

From: Knowles-Fisher Corp., Gowanda, N. Y.

A feature of this charcoal burning cargo and truck heater is a special, scientific aeration arrangement to provide full positive protection against quick burning. Ten lb of charcoal or charcoal briquets will keep

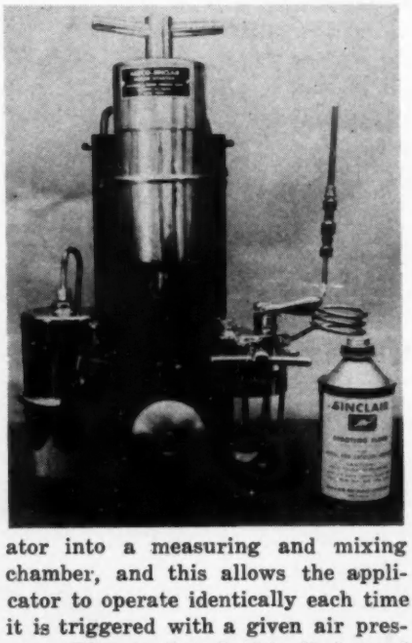


a cargo warm from 12 to 24 hours. The "double shell' design is a safety feature guaranteed to prevent burning even though it should be tipped. Two new hook chains provide added stability. With a 16 in. diameter and 23 in. high, it weighs but 25 lb.

P18. Cold Engine Starter

From: Automotive & Marine Products Corp., Boston, Mass.

This self-contained pneumatic applicator operates on the aerosol principle for cold starting a gasoline or diesel engine down to minus 40 deg F in 10 sec or less. The Ampco-Sinclair (Refining Company) engine starter operates with a minimum of operator "know-how" since starting fluid input is controlled by an air pressure regulating device of simplified design. A bulk fluid reservoir holds a sealed volume of starting fluid which is released by the oper-

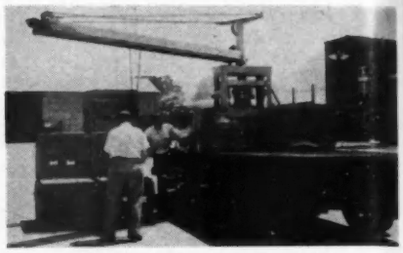


ator into a measuring and mixing chamber, and this allows the applicator to operate identically each time it is triggered with a given air pressure. The starting fluid is discharged in finely divided spray form into the induction manifold of an engine through the use of a special nozzle or nozzles as required for even distribution and to avoid excessive pooling of the starting fluid in the intake system. It develops rapid ignition by the compression of the saturated air mass within the cylinder, and provides for a two-stage starting fluid discharge to initiate and support ignition under adverse operating conditions.

P19. Truck Crane

From: Truck-Crane, Inc., Chicago.

Self-contained materials handling crane for trucks is said to convert any standard truck into a dual-purpose hauling and handling unit. "Truck-Crane" will lift up to 5000 lb at one time, swing it onto the truck, lift it off, and spot it anywhere desired within a 16 ft 280 deg radius of the truck. The complete unit takes up only 18 in. of space behind the truck cab. Traveling carriage on the boom spots the loads. When unloading, hydraulically controlled outrig-



gers stabilize the truck. The complete mechanism is hydraulic, with controls for boom, winch, carriage, and outriggers operable from control panels on both sides of the truck.

P20. Engine Parts Cleaner

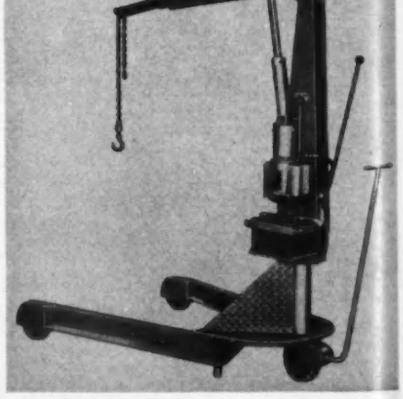
From: Curran Ordnance Chemical Laboratory, Lawrence, Mass.

This new development in self-emulsifying diphase solvents for decarbonizing and paint stripping is formulated for diesel engine use. Working by cold immersion, this self-emulsifying and self-scouring solvent cleans carbonaceous tars, coke and carbon varnish, strips paint and primers.

P21. Shop Crane

From: Star Machine & Tool Co., Minneapolis, Minn.

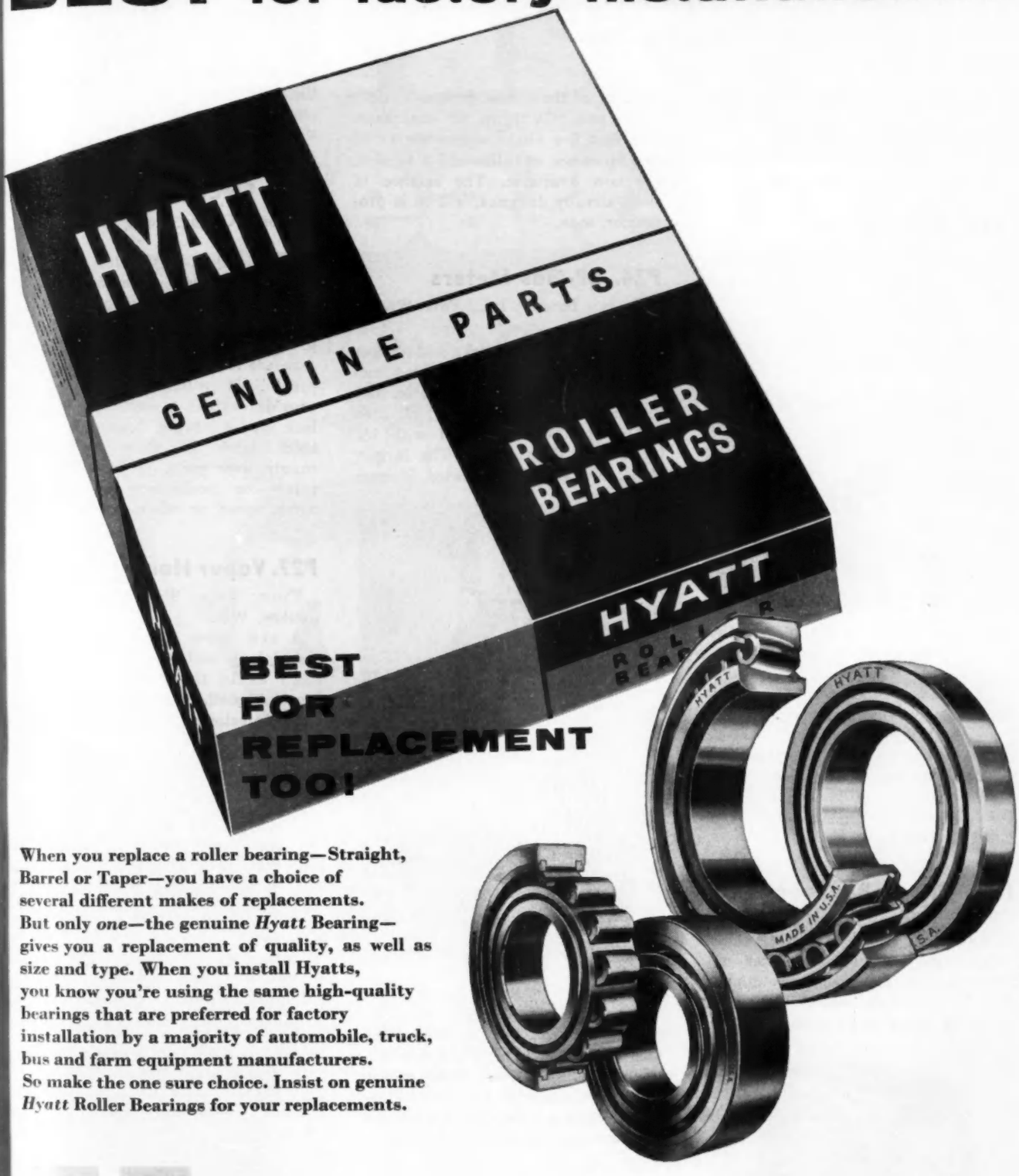
Dual-control hydro-lift combination crane operates either manually or electrically. It is equipped with an



electrical unit that operates by a control that when moved forward, the power unit raises any load up to 4000 lb. Power for the attachment is

(TURN TO PAGE 106, PLEASE)

BEST for factory installation...



When you replace a roller bearing—Straight, Barrel or Taper—you have a choice of several different makes of replacements. But only *one*—the genuine *Hyatt* Bearing—gives you a replacement of quality, as well as size and type. When you install Hyatts, you know you're using the same high-quality bearings that are preferred for factory installation by a majority of automobile, truck, bus and farm equipment manufacturers. So make the one sure choice. Insist on genuine *Hyatt* Roller Bearings for your replacements.

A GENERAL MOTORS PRODUCT

A UNITED MOTORS LINE

DISTRIBUTED BY DEALERS EVERYWHERE

HYATT

STRAIGHT BARREL TAPER

HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION • HARRISON, NEW JERSEY

New Product Descriptions

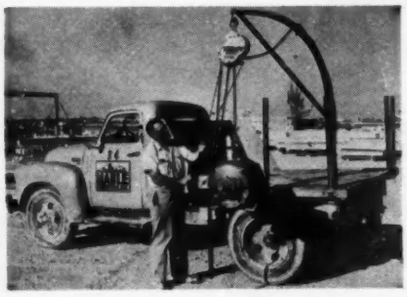
Continued from Page 104

supplied by a standard 6-volt battery. It can be mounted on a 3-wheel base for quick and easy movement to any place desired, or removed from bars and mounted on a truck bed.

P22. Truck Hoists

From: Shaw-Box Crane & Hoist Division, Manning, Maxwell & Moore, Inc., Muskegon, Mich.

New line of battery-operated "Budgit" electric hoists have been developed especially for mounting on

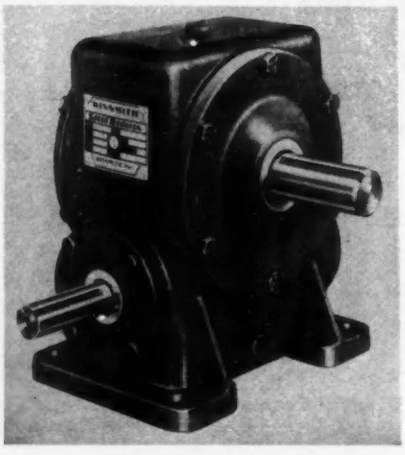


trucks to make available "on-the-spot" lifting wherever the truck happens to be. They may be installed on trucks equipped with a 6 volt electrical system by adding another 6 volt battery. The hoists draw very little current from the battery and normal operation of the truck keeps the battery charged. These new hoists are available in capacities of 1000, 2000 and 4000 lb.

P23. Speed Reducers

From: Winsmith, Inc., Springville, N. Y.

Developed to provide greater capacity within more compact dimensions, the entirely new "C" line of Winsmith worm gear speed reducers

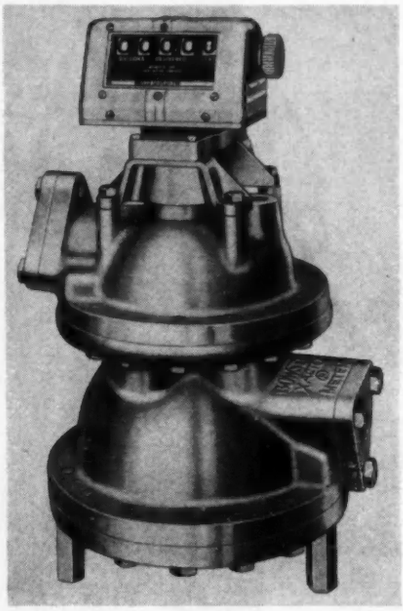


consists of three new designs ("CB", "CT" and "CV"), in 13 sizes each. The first five sizes, within the 1/100 to 5 hp range, in ratios of 5:1 to 60:1, are now available. The balance of sizes, already designed, will be in production soon.

P24. LP-Gas Meters

From: Bowser, Inc., Fort Wayne, Ind.

For use on tank trucks and at fleet fueling points, two new LP-gas meters are now available. One size, designated Model No. 460-15-4, is rated at 15 gpm and furnished with 1¼ in. screwed connections. The larger, Model No. 460-50-4, is rated 50 gpm



with 1½ in. flanged connections. They may be equipped with straight-reading, totalizing or ticket-printing dials. Working parts of the new meters are stainless steel, hard carbon and Teflon. Body is cast steel. Underwriters' approval applies for working pressures to 250 psi.

P25. Truck Heater

From: Arvin Industries, Inc., Columbus, Ind.

Model No. 500 fresh air or recirculating heater features pressure-forced heat originating in a pressure blower equipped with a high-speed impeller operating up to 3000 rpm. Heater as well as blower, connecting unit, water hose, fittings and switch are included. Kits which make the basic unit adaptable to fresh air operation and also provide defrosting equipment are available. Heat circulation is regulated by a 2-speed switch. Heater can be closed off in the summer and the remaining parts of the system employed to provide fresh air circulation.

P26. Electric Hoists

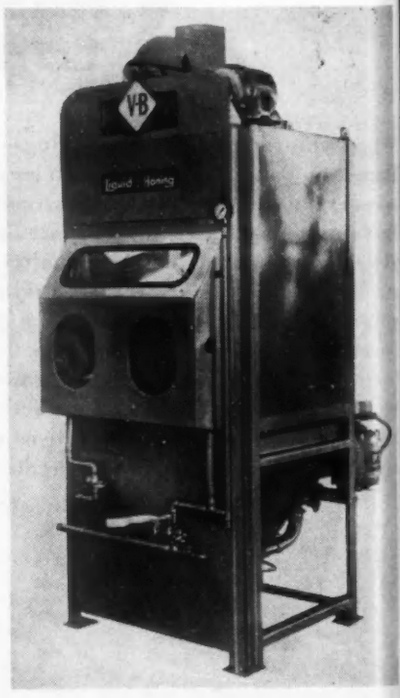
From: Coffing Hoist Co., Danville, Ill.

Cable "Quik-Lift" electric hoists range in capacity from 500 to 4000 lb with a choice of lifting speeds and types of suspension. The new hoists provide push-button control; large, separate load and motor brakes; fool-proof limit switch. Safety hooks also provide extra protection. Positive lock under spring tension securely holds latch in place. Latch fits snugly over point of hook with no points or projections to snag on wires, ropes, or other objects.

P27. Vapor Honing Machine

From: Vapor Blast Mfg. Co., Milwaukee, Wis.

A new vapor blast liquid honing machine is said to clean pistons as much as 14 times faster than conventional methods or clean and deburr diesel injector cups in one-eighth the



time of previous methods as well as salvage ball and roller bearings. Utilizing a patented principle of bombarding the engine parts with a water-

(TURN TO PAGE 108, PLEASE)

Fast Break-in

–another reason why

Sealed Power KromeX

Piston Ring Sets deliver the world's best

ALL-AROUND PERFORMANCE FOR THE MOST MILES!

28 MAJOR ENGINE BUILDERS use Sealed Power chrome top rings!

Fast break-in is a famous feature of Sealed Power KromeX Ring Sets—a result of Sealed Power factory seating. Because these rings settle down and go to work in a hurry, immediate oil control is achieved—and every mechanic knows how important that is to car owners. Chrome top rings, chrome rails on the MD-50 Steel Oil Ring, the oil-control qualities of the Full-Flow Spring, and factory seating of the whole set for fast break-in—all these are reasons why no other piston ring set can match Sealed Power KromeX results!

GET IT FROM YOUR JOBBER

SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST IN NEW TRUCKS! BEST IN OLD TRUCKS!

Sealed Power Motor Parts—*The Heart of the Engine* · Rings, Pistons, Pins, Sleeves, Valves, Water Pumps

New Product Descriptions

Continued from Page 106

suspended mixture of abrasive and rust inhibitor, the Vapor Blast Process cleans any metallic surface of any profile without changing the close dimension of the part. It operates on the compressed air supply ordinarily available in a maintenance shop, and 220-volt current.

P28. Diesel Pop Tester

From: Interstate Diesel Service, Inc., Cleveland, Ohio.

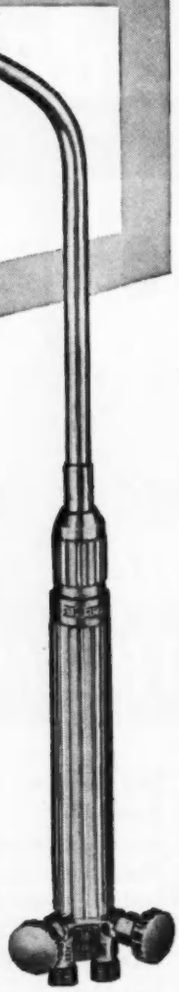
For use by shops rebuilding GM 71 and 110 series diesel injector, a new device, called the "Interstate Pop Tester," should be of interest to users requiring higher popping pressures. It enables the mechanic to predetermine in 30 sec what the popping pressure of a given spray tip, crown valve, stop and spring is prior to assembly. Minimum popping pressure can be set and parts interchanged before assembly, thus giving assurance that the pop will be above minimum standards when the injector is built. This factor is also important in connection with the 110 series injectors, where the double valve sometimes makes it difficult to obtain the minimum popping pressure.

Here's why

PUROX BLOWPIPES

Trade-Mark

cost so little to use and maintain



- **SELF-SEATING VALVES**
  Reseat scored valves when turned tight.
- **RUGGED HANDLE ASSEMBLY**
  Wear-resistant bronze front body—heavy-walled seamless tubes—pressure forged valve body; all built for long, trouble-free service.
- **SLIP-FIT "O" RINGS**
  Eliminate critical metal-to-metal gas seals. Easy to replace.
- **MIXER IN EACH HEAD**
  Delivers perfect gas mixture for easiest and best work. New design resists backfires, eliminates burnouts.
- **SWAGED, PURE COPPER TIPS**
  Streamlined gas flow and exceptionally stable flames. Heads snap in and out of handle. No wrench needed.

•

The PUROX W-202 blowpipe (illustrated) is available with 13 standard welding heads and 3 multiflame heating heads, all of the snap-in type. Ask your LINDE jobber for a demonstration or write for further information. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York 17, New York. In Canada, DOMINION OXYGEN COMPANY, Division of Union Carbide Canada Limited, Toronto.

GET IT FROM YOUR **LINDE** JOBBER

The terms "Purox" and "Linde" are registered trade-marks of Union Carbide and Carbon Corporation.

P29. Lubrication Spray

From: C. W. Harwin, Inc., Toledo, Ohio.

Fluid stream and spray gun for lubricating automotive components offers three advantages. It eliminates necessity of large scale installations, requires no air or electrical supply, permits changing from a solid stream to a fine spray during operation and without tools, and is self-cleaning. Choice of atomized spray or solid stream is made by simply turning a knurled shaft.

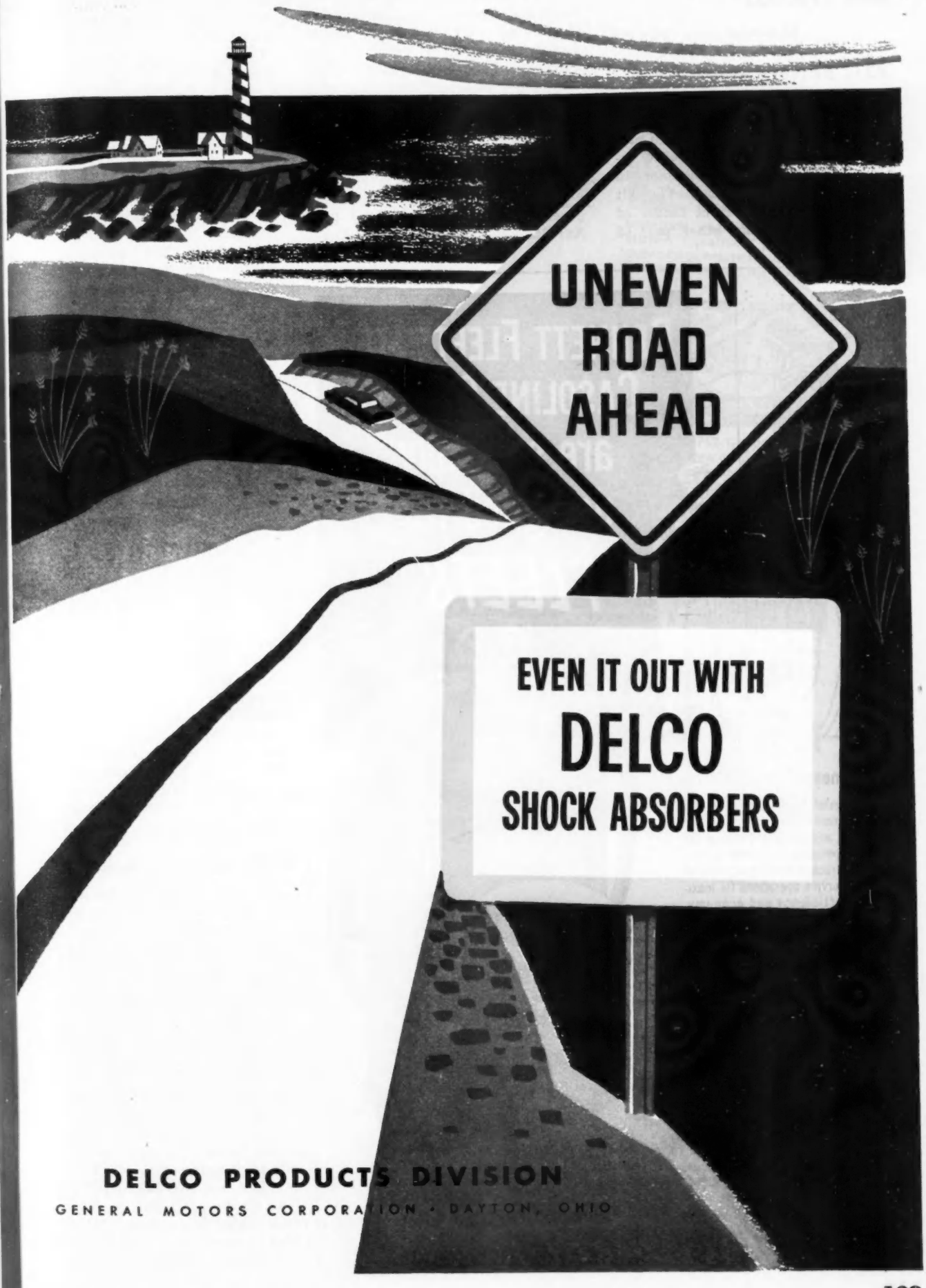
P30. Degreasing Gun

From: Currier Co., Oakland, Cal.

Improved vapor degreasing gun and "Dee-Tee" solvent provide a way to remove old lubrication oil and sludge

from differential, transmission and overdrive units. The gun vaporizes solvent, which in turn loosens deposits in gear housing, leaving gears completely dry and ready for new lube. It is fully automatic, shutting itself off after a nine-minute cycle.

(TURN TO PAGE 110, PLEASE)


UNEVEN
ROAD
AHEAD
EVEN IT OUT WITH
DELCO
SHOCK ABSORBERS
DELCO PRODUCTS DIVISION
GENERAL MOTORS CORPORATION · DAYTON, OHIO

New Products

Continued from Page 108

P31. Battery Starter Kit

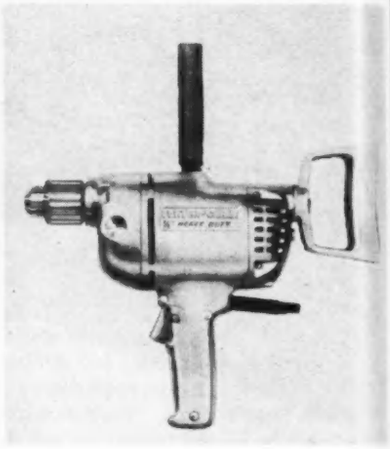
From Associated Equipment Corp., St. Louis, Mo.

Emergency battery starter kit provides emergency starts to stalled vehicles on the road or in the shop, in which batteries are dead. The kit mounts on the right front fender of service truck (or any other part of vehicle) so the 20-ft. long cables can reach dead battery in stalled car, even if service truck is parked behind stalled car. Only a moment is required to clamp cables to dead battery, flip "Kar-Start" switch to 6 or 12-volt position, and step on starter in stalled car. The "Kar-Start" battery always remains connected to the battery in the service vehicle. When the service truck engine is running, and with switch in 6-volt position, the generator is always charging both Kar-Start and truck batteries in parallel at 6 volts. At all times, two warm, well-charged batteries are ready for starting stalled 6-volt cars. With switch in 12-volt position, "Kar-Start" and service truck batteries are automatically connected in series to provide the equivalent of a large, warm well-charged 12-volt battery for starting 12-volt vehicles.

P32. Electric Drill

From: Porter-Cable Machine Co., Syracuse, N. Y.

Model No. 516, heavy-duty, ½-in. electric drill has a 6-amp, 115-volt, AC-DC motor. It develops 45 per cent



more chuck twist power than other models according to tests by the manufacturer. It weighs 10 lb, measures 14¼ in. long, 3½ in. wide and 9⅞ in. high. Rear spade-type handle is adjustable for vertical or horizontal position, or may be removed entirely. The drill has a ½-in. gear type chuck for positive grip. Bit capacity is rated at ½ in. for steel and 1⅜ in. in wood.

P33. Steering Booster

From: Vickers, Inc., Detroit, Mich.

Compactness of this new hydraulic power steering booster has been achieved as a result of a new servo control valve design and relocated hydraulic connections. Designated as the Series No. S23, the booster can be either factory installed or mounted on vehicles in service. The S23 can be mounted interchangeably with the well-known Vickers S6-270 Series steering boosters, yet has a longer stroke. Installation of the new booster is made easier because of reduced diameter, in addition to mounting adaptability provided by a symmetrical control ball stud housing that can be assembled in any one of four different positions. When used with Vickers VT16 power steering

(TURN TO PAGE 114, PLEASE)

Engineered for Efficiency

Companion to the rugged, standard Bennett retail service station pumps, and specially designed for fleet operation, Fleetmeter pumps speed truck re-fueling and step-up fleet service operations for maximum efficiency and economy. Fast, accurate delivery, easy hose handling and dependable performance are combined for longest pump life and least service attention. Standard models indicate delivery on a register.

Automatically Printed Receipts

Ticket Printer models provide an automatically printed record of each delivery for inventory control and protection against errors and losses.

Write for details

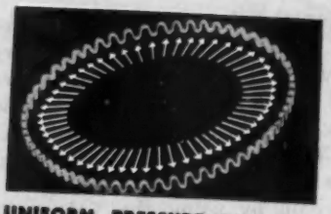
JOHN WOOD COMPANY

Bennett Pump Division

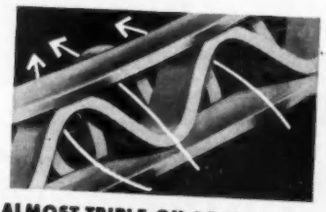
Muskegon, Michigan • Toronto, Ontario

Offices in Principal Cities

THESE PEDRICK FORMFLEX OIL RING ADVANTAGES MAKE THE BIG DIFFERENCE



UNIFORM PRESSURE DISTRIBUTION—"Equalizer" gives equal outward pressure for more perfect seal—better oil control—longer life.



ALMOST TRIPLE OIL DRAINAGE—2½ times more open area provided by "Equalizer" and Spacer. Also, no plugging.

CHROME FOR LONG LIFE—Faces of steel rails chrome plated for 2 to 4 times longer life.

INDEPENDENT OF GROOVE DEPTH—"Equalizer" does not rely on contact with bottom of groove for pressure or tension.

. . . AND FOR HEAVY DUTY ENGINES

The PEDRICK CHROME TOP RING

ELIMINATES BREAKAGE. A special alloy centrifugally cast and heat-treated, is exceptionally tough and stands up without breakage even under the heaviest loads.

HEAT SHAPED. Process developed and used exclusively by Pedrick to insure correct and lasting tension, and to maintain uniform pressure around entire circumference of ring.

POSITIVE 3-WAY SEAL. Twist-Seal design gives point contacts at cylinder wall and upper and lower sides of ring groove—for quick and lasting seals at all three locations.

2 TO 4 TIMES LONGER LIFE. The solid hard chrome face lasts up to 4 times longer and also reduces wear on cylinder wall and on all the other rings.

WILKENING MANUFACTURING CO.
PHILADELPHIA 42, PA.
In Canada: Wilkening Manufacturing Co. (Canada) Ltd., Toronto

New Products

Continued from Page 110

pump, the new Series S23 booster forms a compact unit, requiring two hydraulic connections; at the booster and at the pump. The S23 can also be used with the VT17 pump and external TM1 tank, or can be combined with a standard Series V200 vane-type pump by using the TM1 tank and FM2 volume control and overload relief valve. The new Series No. S23 design is available in two models: The S23070 and S23120. The —070 has a 7-in. maximum stroke and the —120 a 12-in. maximum. Each has 3000 lb rated thrust capacity at 600 psi. Maximum operating pressure is 1000 psi.

P34. Body Hoists

From: Gar Wood Industries, Wayne, Mich.

Two new additions to the Gar Wood "Strong-Arm" line of hoists and matched bodies have been announced: the A-50 medium and A-60 heavy-duty "Strong-Arm" hoists and the medium duty "GB" and heavy duty "GC" series bodies that include general contractor, combination dump and platform and coal and coke models.

P35. Tube Vulcanizer

From: Stenor, Inc., New York City.

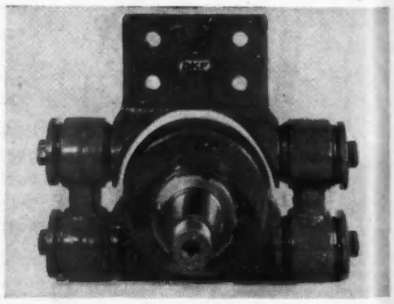
"Stenor Weldboy" vulcanizer uses standard electric current to repair permanently any size of tube, whether natural or synthetic rubber. Unique

feature about the vulcanizer is that it does not merely affix a patch over a hole in the tube. Instead, it actually fills the hole, repairing length, width, and depth of damage with a fused feather-edge weld. It can be set up on wall or bench. Correct temperature is automatically controlled, requiring no watching, waiting, or guesswork. It vulcanizes all replacement types and sizes of valves, welding them into place with a factory finish.

P36. Propeller Shaft Box

From: SKF Industries, Inc., Philadelphia.

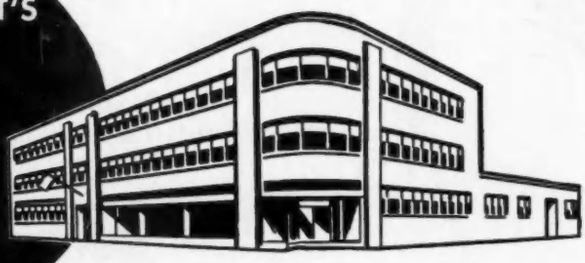
Truck propeller shaft box is link-suspended to isolate shaft vibration from the chassis. It carries a deep



groove ball bearing and uses friction-less seals. The new unit is interchangeable in service with previous SKF designs and fits SAE standard propeller shaft stub ends.

(TURN TO PAGE 116, PLEASE)

IN CHICAGO IT'S
ILLINOIS AUTO ELECTRIC CO.



Specialists in

TRUCK REFRIGERATION
engineered to your transportation needs!

Before deciding on any type of truck refrigeration, consult with Illinois Auto Electric Company's specialized staff for the type of units most suitable for your specific needs. You can benefit from our years of experience as HEADQUARTERS for the nation's finest lines of mobile refrigeration equipment.

COMPLETE "ONE-STOP" SALES, INSTALLATION AND SERVICE

- Arctic-Traveler MECHANICAL REFRIGERATION
- Lehigh "Blu-Cold" MECHANICAL REFRIGERATION
- Kold-Hold HOLD-OVER PLATES
- Foster-Built Bunkers DRY ICE SYSTEMS
- Hunter DRY ICE SYSTEMS
- Kold-Trux MOBILE REFRIGERATION
- Allen Cooler MECHANICAL REFRIGERATION
- Frigikar AUTOMOTIVE AIR-CONDITIONING

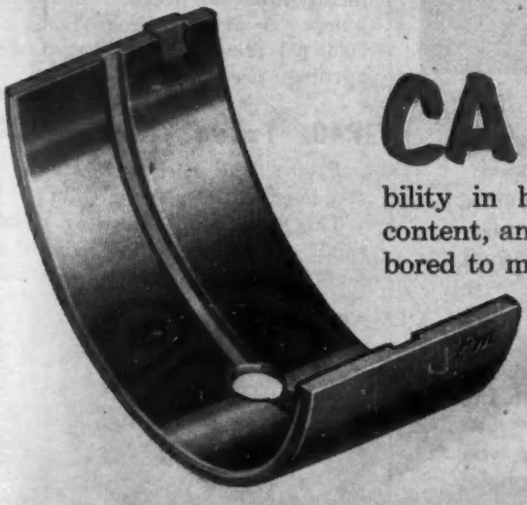
Call us regarding your special equipment needs.
ILLINOIS AUTO ELECTRIC CO.
2011-37 S. Indiana Ave. • Chicago 16, Ill.
Phone CAlumet 5-4444

Fm

Sintered

COPPER-LEAD ENGINE BEARINGS ...MAXIMUM MILEAGE FOR FLEETS

CP Federal-Mogul *CP* sintered copper-leads provide the fleet operator with truly *precision* insert bearings for maximum mileage. They are overplated with lead-tin to assist break-in. A final coating of pure tin provides additional corrosion resisting qualities. They should not be resized or align-bored.



CA Federal-Mogul *CA* sintered copperlead engine bearings meet the fleet owner's needs for flexibility in his engine rebuilding. They have lower copper content, and are not overplated. They can be resized or align bored to meet the size requirements of reground crankshafts of any hardness.

CA or CP . . . fleet owners are *miles* ahead with Federal-Mogul sintered copper-lead engine bearings. *Ask your Federal-Mogul jobber!*

Sintering is a heating or "roasting" process. Federal-Mogul uses it to bond pure copper-lead powder to the steel bearing back, in the strip process. After forming and machining, the bearings have great strength and ductility. They are famous for their durability in heavy-duty engine operation.

FEDERAL-MOGUL SERVICE

Division Federal-Mogul Corporation

DETROIT 13, MICHIGAN

New Products

Continued from Page 114

P37. Paint-Rust Remover

From Turco Products, Inc., Los Angeles, Cal.

Non-acid rust removing material simultaneously strips paint, rust and primer from ferrous metal surfaces. Called "Rustgon," the liquid alkaline material requires only two simple steps—a dip and a pressure rinse. Parts to be de-rusted and stripped of paint and primer are merely immersed into the "Rustgon" hot tank, withdrawn, and then rinsed with air-and-water or with steam.

P38. PTO Hanger Bearing

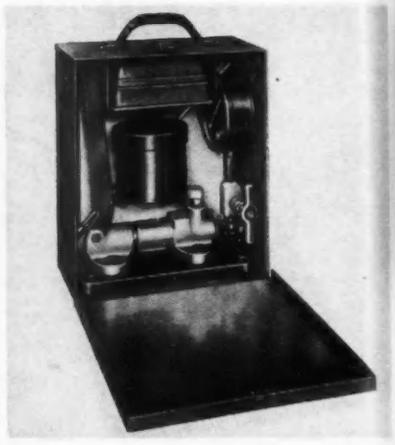
From: Gar Wood Industries, Wayne Division, Wayne, Mich.

Two-speed bearing hanger is designed to increase the versatility of power take-offs for truck mounted special equipment. It adds high speed reverse rotation to regular power take-off drives. A power take-off with one-speed forward plus the bearing hanger provides two-speed reversed drive rotation, while a take-off with two-speeds forward plus the bearing hanger provides four-speed reversed drive rotation.

P39. Diesel Nozzle Kit

From: American Bosch Corp., Springfield, Mass.

Portable diesel nozzle cleaning and testing outfit consists of a compact metal carrying case that contains



both the American Bosch nozzle test stand and a nozzle cleaning kit. It incorporates an actual fuel injection pump. A pressure gage reading to 5000 psi facilitates setting of nozzle opening pressures.

P40. Tread Wear Gage

From: The Hickok Electrical Instrument Co., Cleveland, Ohio.

This new tire tread-wear gage is small enough to fit the palm of the hand. It measures easily and accu-

rately the per cent of tire wear without removing tires from the vehicle.

END

Please Resume Reading Page 88

SIMPLE—
Just bolt it on...no wires—
not connected
with hub or engine

Here's the First, Easy Step in Keeping a Truck Busy...

RIGHT UP IN THE CAB

When you install a SERVIS RECORDER in the cab, a number of things begin to happen:

—you get on your desk every morning a little chart that shows all the truck did yesterday.

—you then know how often the truck stood idle, and how long.

—you know whether it was taken out at night without permission.

—the chart shows you whether *this* truck has too much work to do, compared with the others.

—knowing the truck's route, as you do, you can tell whether it did any speeding to make up lost time.

—if the truck gets in after hours, the chart shows whether extra pay for overtime is justified.

Write for our time-and-money-saving Booklet. It's free.

THE SERVICE RECORDER CO.
1375F Euclid Ave. • Cleveland 15, Ohio

The Servis Recorder
Shows Busy and Idle Time . . . All Day

OVER 5 MILLION MILES

OF TROUBLE-FREE SERVICE

Capital Transit equips 204 buses with

Graham-White

AUTOMATIC

DRAIN VALVES

CAPITAL TRANSIT COMPANY
THIRTY-SIXTH AND M STREETS, N.W.
WASHINGTON 7, D. C.

OFFICE
SUPERINTENDENT OF EQUIPMENT

September 8, 1953

Mr. William Green
William Green and Company
Williamson Road and Carver Avenue
Roanoke 12, Virginia

Dear Mr. Green:

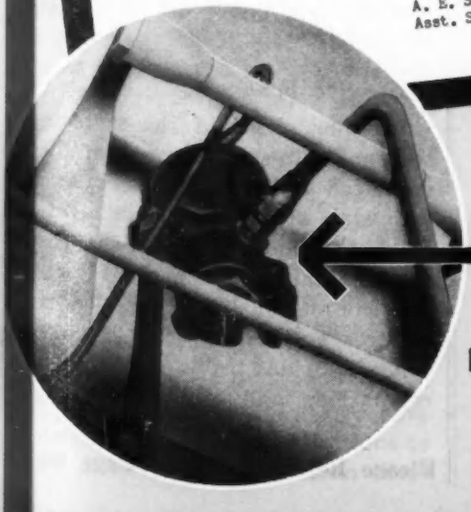
The ninety-seven White Model 1150-DW coaches we purchased in 1952 were equipped with Graham White ejector valves as a result of previous engineering tests.

These coaches have now accumulated approximately 60,000 miles a piece; during which time, we have had maintenance-free service from the ejector valves.

In view of these results, we have specified the Graham White valve on 107 new buses being delivered to us this year and are taking steps to equip some of our existing fleet as well.

Very truly yours,

A. E. Savage,
Asst. Superintendent of Equipment



A typical G-W valve installation. PERFECTLY SIMPLE, SIMPLY PERFECT.

Capital Transit, of Washington, D. C., is just one of the hundreds of bus and truck operators who have proved the maintenance-free performance of the Graham-White Automatic Drain Valve, and who are now specifying the G-W Drain Valve as standard equipment.

The Graham-White Valve guarantees complete and automatic drainage of pressure operated equipment. It rids air receivers and lines of harmful deposits that cause breakdowns and dangerous brake failures. For the full G-W story, write the distributor nearest you.

East Coast . . . WILLIAM GREEN & CO.
Roanoke, Virginia

Canada . . . THE HOLDEN CO., LTD.
614 St. James St., W. Montreal 3, Quebec, Canada

PRODUCT OF GRAHAM-WHITE MANUFACTURING COMPANY, SALEM, VIRGINIA

FINEST FOR FLEETS!

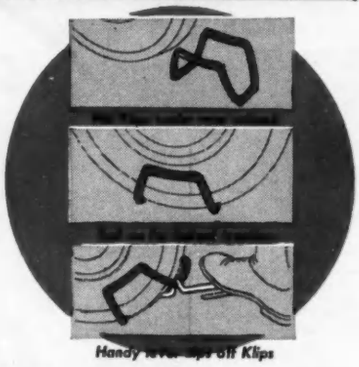
CAMPBELL CHAIN

A Complete Line of
Regular and Emergency Traction Equipment

Revolutionary NEW Emergency

"TRACTION KLIPS"

Tuck a Klip under each rear wheel . . . roll on . . . roll away! Even spinning wheels will pick up Klips—get you out of ruts, up slippery hills, away from icy gutters. Klip remover tool included for easy release. The greatest emergency traction device ever! For all passenger cars, taxis, light trucks.



Handy lever slips off Klips

Adjust the chain and lock

Campbell's NEW Minute-A-Wheel

"KWIK-ON" TIRE CHAINS

Complete chains for continuous use. Just one minute per wheel—and you're ready for snow, ice or mud! Just slip chain over wheel with handy handles—push rod in back of tire—adjust and lock. Special plastic sleeve protectors come with each set. No jacking or moving vehicle . . . no dirty work. Perfect to speed up—and ease up—your fleet service.

A Campbell Exclusive—*Lug-Reinforced*

PASSENGER CAR CHAINS

Patented *Lug-Reinforced* construction that digs in for greater traction . . . greater protection against skids and side slips. Easy-to-use Chain Applier included with every pair. The finest tire chains money can buy! Store neatly in sturdy box. Get a set for every car in your fleet!

Three Grades of Campbell

TRUCK CHAINS

Lug-Reinforced for maximum traction and long wear—*Highway Service* for general use—*Mud Service* for off-the-road use. Color-coded bags save handling time—make identification easy.

Ask your jobber to recommend just the right Campbell Chain for the job at hand. If you prefer, write direct.

CAMPBELL CHAIN *Company*

MAIN OFFICE, YORK, PA.
West Burlington, Iowa; Portland, Oregon; Sacramento, Calif.

Chain for every need . . . industrial . . . marine . . . farm . . . automotive

Florida Driver School

Continued from Page 92

Allen has been in charge of this program since 1950. He covers the entire state in 18 months.

The laboratory tests are usually conducted on the property of one of the trucking companies. All drivers in the area are invited to attend and take the tests. As soon as the papers are evaluated, they are given to the drivers with deficiences marked in red. Then the tests are explained, the deficiencies are pointed out and instruction is given on how these deficiencies can be corrected. If they are not correctable, means for compensating for them are explained.

Overcoming Deficiencies

For example, if the deficiency is faulty judgment as to distance, the drivers are taught how to allow for it by taking a second look before passing and are cautioned not to take chances, particularly at night. If resistance to glare is low, the driver is taught that by watching the right side of the road or the vehicle ahead of him and the road ahead of him and by keeping his own lights dim, he can compensate for this deficiency.

Should the tests develop that a driver has a restricted field of vision so as not to be able to get a view of traffic approaching at an angle or of pedestrians who dart out from between parked cars, an examination by an eye doctor is often indicated.

In-Service Program

Another phase of the instruction is an in-service program for employed and experienced drivers who want to improve their knowledge of technical facts which cannot be obtained behind the wheel. This course consists of a series of lectures and demonstrations covering Florida traffic laws, ICC regulations and city ordinances.

END

Please Resume Reading Page 94

Is This the Army?

Continued from Page 91

dertook similar programs within their services.

When the Chief of Transportation first undertook responsibility—less than two years ago—some 40,000 vehicles in the United States were involved at an annual cost of approximately $58,000,000. Since that time, more than 5000 vehicles have been eliminated from the continental U. S. fleet at an estimated savings of some $12,000,000. This has been accomplished without loss of transportation service.

Substitution Savings

The substitution of commercial vehicles for tactical types represents a savings of approximately 50 per cent on the initial purchase price alone. For example, the Army's 2½-ton, 6x6 cargo truck, M35 costs $7050 as against $3079 for its commercial counterpart. In addition, the commercial vehicles are less costly to operate and lend themselves to less expensive upkeep and parts replenishment.

The military tactical vehicle has features essential to operation over difficult terrain—all-wheel drive, radio suppression, deep-water fording characteristics, 24-volt electrical systems, blackout lighting, etc.—which are not required on vehicles in routine administrative operations at posts, camps and stations.

Vehicle per vehicle, fuel consumption, maintenance and supply of parts for the administrative vehicle is only about half that of its tactical counterpart. Also, because of their generally higher payload-to-vehicle-weight ratios, fewer commercial trucks are required to deliver a given load. Fewer trucks also mean less manpower.

So far, implementation of the new program has involved no large scale procurement of commercial vehicles. Tactical types have been replaced gradually as they became unserviceable. New commercial vehicles procured by the Army have no accessories and modifications to the basic vehicle other than those normally provided by the manufacturer for commercial users.

Maintenance Changes

A model motor pool was set up at the Army's Transportation Center at Fort Eustis, Va., to be used as a testing ground for new streamlined dispatching and maintenance procedure and to provide a standard for other pools everywhere. The model pool consists of a central dispatch office, service station, maintenance and repair shop, and approximately 40,000 sq yd of parking space.

The dispatch office is so located as to control traffic entering and leaving the area. The service station has adjoining wash racks and service area where vehicles are

(TURN TO NEXT PAGE, PLEASE)

...now that equipment *must* be made to last longer...

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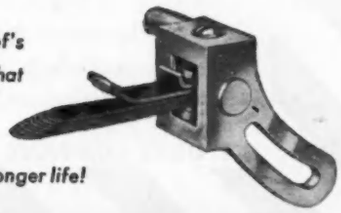
on your fleet, and watch your vehicle life S-T-R-E-T-C-H

Hoof Governors *make sure* that your vehicles are driven at the speed *you* want—they prevent excessive engine racing in intermediate gears, reduce operation costs and substantially increase the interval between overhauls! Now, more than ever, the economies of Hoof operation warrant your full attention. Write us for *facts!*

No other Governor has Hoof's patented Cantilever Spring that means more accurate speed control, simplified construction and longer life!



HOOF PRODUCTS CO. 6543 So. Laramie Ave., Chicago 38, Ill.

Is This the Army?

Continued from Page 121

checked daily before being dispatched and after their return to the pool in the evening. The shop building has an inspection and service line running its entire length and special bays for general repair. It also houses the parts room and required allied trades such as tire repair, welding, painting, battery shop, etc. Special provision is made for emergency repair so as not to interfere with normal maintenance and servicing activities.

Modern test equipment was installed at standard pools. This consists of such items as engine analyzers, wheel alignment indicators, alignment and steering correction units, hydraulic brake testers, portable headlight testers and powered lubrication equipment.

New operating procedure at Army motor pools is based on the policy of keeping the vehicles in operation to the maximum extent possible; carefully scheduled dispatches; early detection and correction of vehicle defects; and the very minimum of maintenance and repair neecssary to keep vehicles rolling. Unlike many commercial operators, however, the Army also requires that its drivers be able to perform certain essentials of maintenance on the vehicles for which they are responsible.

The New Program

Maintenance on administrative vehicles is now accomplished only to that degree required to keep them in serviceable condition during their life expectancy. Over-maintenance is avoided; at the same time, testing devices are used to insure that deficiencies are caught and corrected in time.

In the past all Army vehicles were maintained at weekly, monthly (1000 mile) and semi-annual (6000 mile) intervals. This was desirable for tactical vehicles which received rough treatment under extreme field conditions. But, for administrative vehicles, these intervals were burdensome and unnecessary. The new maintenance procedure, which is expected to be revised from time to time as experience is gained, now provides for 90 day (or 2000 mile) and yearly (or 12,000 mile) inspections and service on the commercial-type administrative vehicles.

Each motor pool shop performs such maintenance as its facilities and personnel will permit, but performs no major rebuild or overhaul. In the larger pools scheduled inspection and service are performed on a production-line system. Vehicles pass through six stations: (1) pre-inspection and/or road test, (2) engine and accessories, (3) chassis, body and cab, (4) power train (including steering, brakes and wheels), (5) lubrication, and (6) the final inspection.

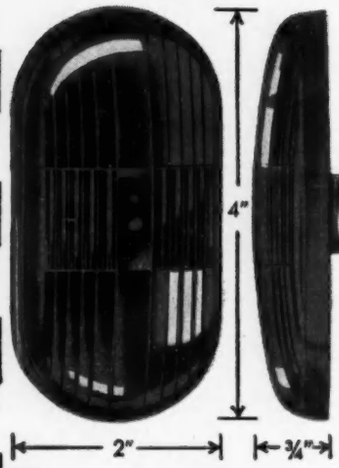
Outside Purchasing

Maintenance beyond the scope of the motor pool is accomplished by another government shop if one is close by, or by the nearest commercial garage. Local contract agreements between Army posts and

(TURN TO PAGE 124, PLEASE)

THIS NEW **DIETZ** No. 56
CLEARANCE-MARKER LIGHT
MOUNTS *Fast... Flush... and Easy!*

No. 56



This No. 56 DIETZ Clearance and Marker Light stays out of trouble even in the tightest spots . . . the shallowest, narrowest construction, yet full 180° visibility. Features a diecast body, water, dust and corrosion-proof. The brilliant, shockproof Red or Amber Lens snaps on — no retainer required . . . completely conceals body when mounted. 6v. or 12v. Ask for catalog page and prices NOW!

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FLASHING
EMERGENCY LIGHT
For All 'Round Safety!

This new No. 200 DIETZ Light has full 360° visibility . . . mounts without disassembling. Available with Red, Amber or Blue Lenses. Diameter 6". Height 6¼". 6v. or 12v. 50 candlepower bulb. Flasher and Switch included. Ask for catalog page and prices today.

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DIETZ

Summer driving calls for greater tire care

★ GOOD NEWS ★

Schrader #4000 Valve Core now has added features:

#880 Valve Cap

Rugged brass shell houses the sealing unit and locks it onto the valve mouth

Tough, specially compounded rubber molded between two brass plates makes a powerful seal over valve mouth

STURDIEST BRIDGE resists damage from screwdriver tools when tightening or removing.

STRONGEST SWIVEL JOINT will not separate when removing core.

★ **IMPROVED PLUG GASKET** now withstands both extreme heat and cold. Wedge fit, will not distort.

★ **SUPER SEALING SEAT** seals under higher tension—surer airtightness—finest heat and oil resisting rubber for longest service life.

★ **NEW HIGHER TENSION*** Stainless Steel SPRING—improves sealing—unaffected by heat. Spring-at-the-bottom provides obstruction-free air passage thru the top of core.

FULL LENGTH PLUNGER PIN—guided top and bottom. Greatest travel insures easy inflation.

SPRING CUP—Specially designed to align, anchor, make removal easiest.

** On long cores the spring is never under tension until core is inserted in the valve.*

For extreme heat conditions use this combination: #7612 Valve Cap and #7611 Valve Core

When highways are hot enough to cook your goose—profitwise, that's the time to double-check your fleet tire-air service. Keep your fleet operating at top efficiency on certified* accurate air pressures protected by quality Schrader Caps and Cores . . . backed by the dependability of Schrader manufacturing experience.

Schrader Valve, Gauge and Inflating equipment specialists know the answers to all-weather driving. If you have any kind of tire valve problem, describe it to us. We'll be glad to help.

**Certify all your gauging-inflating equipment with Schrader #8106 Trutest Special Gauge.*

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FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT

7830

Is This the Army?

Continued from Page 122

nearby commercial firms may be arranged under existing regulations.

Stockage of parts at installation motor pools has been reduced to a minimum, thereby alleviating military supply problems, through broadened provisions for local purchase. Local commercial suppliers may now furnish the needs of the motor pools in much the same fashion as the corner garage. Purchases may be made directly from an imprest fund kept by the motor pool, through open-end contracts (charge accounts for small purchases), or by government standard purchase request.

GSA Gets Into Act

The General Services Administration, that provides truck, bus and passenger car transportation for most non-military governmen branches, also plans to streamlin its fleet management. If all goe well, it will present its plan to Con gress next year.

This suggested blueprint is im portant for a number of reasons. I would affect, first of all, a mass o U.S.-owned vehicles which last yea numbered 260,000. It is based o a realization that the present hap hazard administration of these ve hicles is causing needless expendi ture of public funds.

The plan also is significant be cause of its aims. It is intended t produce greater efficiency in flee operations, cut down the costs o maintenance and repairs, and re duce the number of cars and truck run by federal agencies.

GSA says action to achieve these goals is long overdue. The agency consequently, has prepared what it calls a "framework" for business like fleet management. It is de signed to remedy the lack of these important elements:

1. Sound maximum standards for motor vehicle replacement, for compulsory use in all agencies.

2. Appropriate fleet limits, instead of today's method of controlling the number of cars and trucks by restricting purchases.

3. A practice of reducing maintenance and repair work to the most essential actions.

4. Hiring of qualified directors of motor fleets.

5. Standardized cost-accounting and records for all vehicle operations.

6. Central control of vehicle registration and inventory.

7. Training and testing programs for drivers and operators, and a permit system applicable to the entire government.

One element essential to economical operation of government vehicles, GSA says, is the use of central vehicle pools in areas of high vehicle density. As a starter, the program might involve setting up some 15 pools in as many cities, with the initial intention of eliminating about 3000 vehicles.

Using a figure of $500 per vehicle, the amount saved if 3000 cars and trucks were dropped would be $1.5 million.

END

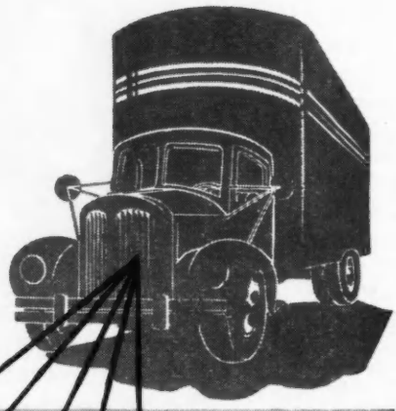
Please Resume Reading Page 92

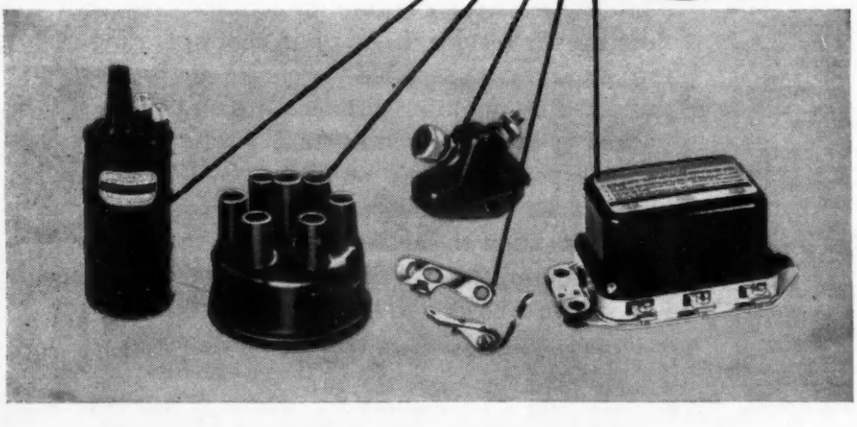
COLD-WEATHER
Tune-Ups Save Money!
Start Now—with NIEHOFF
Warranteed Ignition Parts

Save money by guarding *now* against roadside repairs, towing charges, and vehicles out of service this winter. Niehoff Warranteed Ignition Parts provide one of the surest ways of keeping your fleet operating efficiently, economically—*and profitably!*

Quick, easy installation saves time costs, speeds job completions. Niehoff Warranteed Ignition Parts are precision-made to fit all popular makes and models of cars and trucks. What's more, each part is warranteed for 90 days or 4,000 miles of use as a pledge of Niehoff dependability.

So order Niehoff Warranteed Ignition Parts *now*... keep your fleet *going* this winter!





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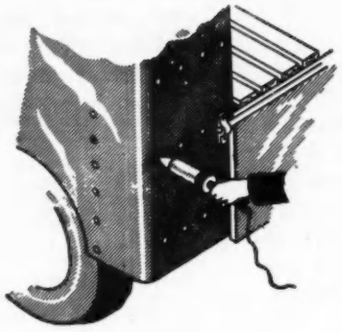
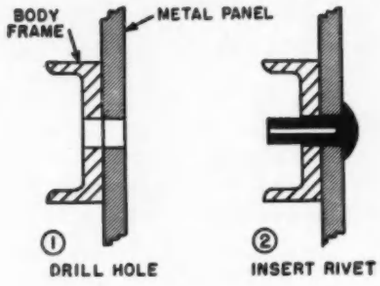
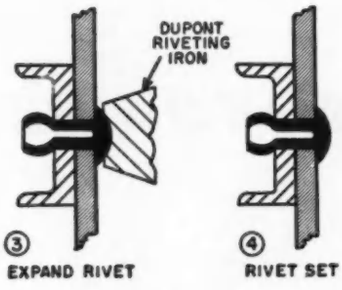


TRUCK BODY ASSEMBLY





BLUEPRINT FOR SIMPLIFIED FASTENING

Save minutes and money on truck assembly with Du Pont Industrial Rivets

Fastening's at its quickest and simplest with Du Pont Industrial Explosive Rivets. Take this truck-panel assembly job. All you do is:

1. Drill holes in body frame and metal panel.

2. Insert Du Pont Industrial Rivets.

3. Place heated iron to Rivet heads.

1-2-3 . . . done! In as little as ½ second Rivets expand, forming smooth, barrel-shaped heads on shop end ("4") . . . frame and panel are knit together, with no after-finishing needed.

Industrial Rivets make it a one-man job. Working *only* from head side of Rivets, operators can set up to 25 a minute . . . bucking bar or special equipment is "excess baggage."

The strong, one-piece Rivet construction means solid assembly that'll stand up in highway stresses and strains. And these Rivets can handle metal-to-metal or wood-to-metal work, all with a wide grip range that cuts inventory. So whether you use them on truck doors, side panels, floors, fenders or running boards—you get a sturdy job in less time, with less effort, for less money. Test 'em soon.

A 32-page booklet explaining all about Du Pont Industrial Rivets is yours for the asking. Simply contact your jobber or write: E. I. du Pont de Nemours & Co. (Inc.), Explosives Department, Wilmington 98, Delaware.

DU PONT
INDUSTRIAL EXPLOSIVE RIVETS
A Product of Du Pont Explosives Research

DU PONT
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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Aluminum Tank Repair Is Easy!

Continued from Page 95

first, the shop crew cut away the entire side of the tank and top roll-over rail in one piece (Fig. 2). The hose carrier tube and five interior baffles were also removed by the same method.

The tank had now been stripped to an open C-shaped shell. Surprisingly, no deflection, or distortion of the shell had occurred. Apparently, because of aluminum's low modulus of elasticity, the shock of the accident had been absorbed

Baffle Repair

All baffles were deformed at one edge (Fig. 3) as the result of the terrific impact. However, all were re-used after being re-shaped by hand-forming over the male steel die used for the original manufacturing of the tank (Fig. 5).

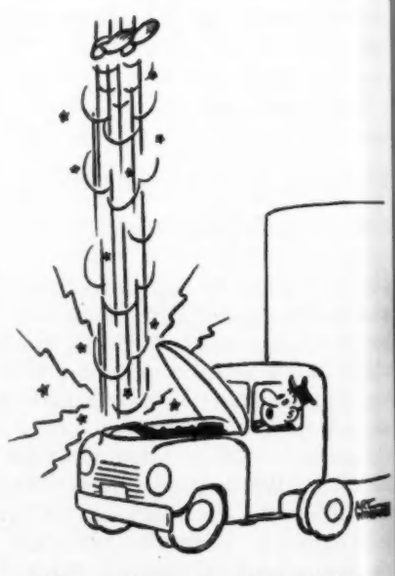
Next, sufficient sections of the front and rear heads were cut away to eliminate damaged portions and also to permit ready access for the welder and his equipment to work inside the shell after the sides were replaced (Fig. 4).

The baffles were relocated and tack-welded into position. The side shell was then placed in position and continuously welded, and continuous welds were made joining the baffles to the tank shell (Fig. 6).

The final step in repairing the tank consisted of closing up the shell with newly fabricated head segments, and installing roll-over rail end segments and the hose carrier tube. Miscellaneous work included replacing the access ladder, rewiring, air lines, repairing welds on the tripod and rear subframe and drainage trough, etc.

All welding was done with a semi-automatic Aircomatic welding unit employing argon gas and No. 43S filler wire (Fig. 6). It has

(TURN TO PAGE 128, PLEASE)



"Were the spark plugs OK?"

NOW YOU REALLY SAVE!

MARQUETTE'S NEW CHARGER LINE FEATURES THE HIGHER QUALITY

Porto Fast

that costs LESS than ordinary tester-chargers!

At a popular price, this great new Tester-Charger gives you all these valuable EXTRAS: 20 SECOND PUSH-BUTTON TESTING—*reliably* indicates the charging period required for either 6- or 12-volt batteries . . . or shows if battery is discharged, sulphated or worn-out; 6-12 CHARGE RATE—control for setting *safe* rate for fast or slow charging as shown on meter. Set it and forget it . . . it's automatic; HIGHEST QUALITY COMPONENTS—Westinghouse, General Electric, A.P.I., Hayden, Klixon, Ohmite; WEATHER-RESISTANT—superb construction in every detail.

More profitable servicing . . . simple operation . . . maximum efficiency . . . longer, service-free life . . . can be *yours* at the most surprisingly LOW price for such high quality you've seen in *years!* Ask your jobber for a "Porto-Fast" demonstration *today*—see for yourself the better TESTING and CHARGING you can *now* get for your money!

MARQUETTE
MANUFACTURING CO., INC.
307 E. Hennepin Ave., Minneapolis 14, Minn.

NEW Black & Decker Sander-Grinder has 90% MORE POWER

to Sand, to Grind, to Cut, to Brush!

Black & Decker's new 7-inch Heavy-Duty Sander-Grinder has almost *twice* the power of any previous model! Yet it's *lighter*, cuts down operator fatigue! Greater power and higher spindle speeds—your choice of 5,200 or 6,000 rpm—make it a more nearly *universal* tool in your shop, for dependable, heavy-duty sanding, grinding, wire-cup brushing in your fleet repair shop. The B&D-built universal motor, specially designed just for this tool, guarantees ideal results on even your toughest jobs! Motor housing is protected from even abnormal abuse, and is contoured to direct exhaust air *away* from the operator! Switch-guarded against accidental operation; ball bearings lubricant-sealed. Complete with pad, three sanding discs, all ready to *go*, for only $79.50! To get set for faster schedules, less fleet downtime, more profitable fleet operation, see the new B&D Sander-Grinder at your jobber's today, or write for *Free* Form Number 27. Address: THE BLACK & DECKER MFG. CO., Dept. 624, Towson 4, Md.

LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker

PORTABLE ELECTRIC TOOLS

For nearest distributor, see "Tools-Electric."

Do all these jobs FASTER, BETTER, CHEAPER!

Get fast material removal or satin-smooth finish on fleet body and fender jobs!

With saucer or cup grinding wheel, smooth down welds, cut off studs, bolts, rivets, etc.!

Clean surfaces, remove old paint, rust, scale, dirt *quickly* and *easily* with a wire-cup brush!

Use for driving depressed center abrasive wheels to remove burrs, torch cuts, sheared edges, etc.!

Men Who Roll the Big Rigs Choose .....

ERIE WHEELS

for Ruggedness

Look at the inner rim land—the vital point of any wheel. Examine Erie's thick section, well ribbed, sturdy support . . . Will not pound flat, crack or bend under load. No compromise with SAFETY or STRENGTH.

Specify ...

Erie Wheels

ERIE MALLEABLE IRON COMPANY

Automotive Wheel Division

ERIE • PA.

454

Aluminum Tank Repair

Continued from Page 12

been found that this equipment achieves as high welding speeds as the conventional methods used in arc-welding black iron or high-tensile steel.

The actual work was found to break down to the following man-hours:

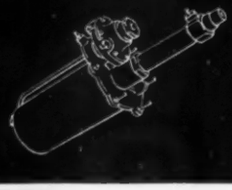
Work	Manhours
Strip tank, remove damaged parts, baffles, sides, dome flashing and air lines	70
Repair and re-dish baffles	18
Clean up broken weld	10
Replace baffles	30
Repair front and rear heads	30
Make and install side shell	20
Straighten and install roll-over rail	18
Chip welds and reweld tripod and rear sub-frame	10
Straighten and reweld left top side shell full length	40
Rewire	6
Repair access ladder and install	7
Install air lines	9
Repair trough	6
Miscellanecus repairs, including repair to running gear and tire carrier, replace marking pin, repair draw bearing, etc.	66
Total	340

END

Please Resume Reading Page 96

"Hey, Mike. Isn't that the kid that always gives us such a bad time with his water pistol?"

Today's most wanted power features for cars and trucks



Bendix* POWER steering

Here is an efficient, easy-to-install power steering unit that simplifies production line installation. Because Bendix Power Steering is of the linkage type, it may be adapted to any manufacturer's model without extensive engineering changes in present steering designs. Meet the increasing demand for power steering more efficiently and more economically with Bendix Power Steering.

Bendix* HYDROVAC* POWER brake

With over four million in use, the Bendix Hydrovac is by all odds the world's most widely used power brake for commercial vehicles. This overwhelming preference for Hydrovac is a result of sound engineering design, exceptional performance, low original cost and minimum service upkeep. Make the industry's choice your choice, specify Hydrovac for all your commercial vehicles.

Bendix AIR-PAK* POWER brake

With one simple compact unit, Bendix Air-Pak combines all of the well-proven advantages of hydraulic brake actuation with an air brake system. An important advantage of Air-Pak is that brakes can be applied by foot power alone when braking is required before air pressure builds up or if it should fail for any reason. For faster, better controlled air-hydraulic power braking, specify Air-Pak.

*REG. U.S. PAT. OFF.

Measured from any standpoint, trucks equipped with Bendix power steering and braking step up the efficiency of any trucking operation.

Drivers are happier, schedules are better and profits are bigger when trucks have these important features of safety and driving ease.

Remember, too, that Bendix Hydrovac and Air-Pak are performance proven by millions of miles of actual service; and Bendix Power Steering may be adapted by any truck manufacturer to present models without extensive change in present steering design.

That's why if you build, buy, sell or operate trucks, it will pay you to make sure they are equipped with performance-proven Bendix power braking and steering.

Bendix Products Division

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Export Sales: Bendix International Div. 205 E. 42nd Street, New York 17, N. Y.

Better Tire Care Shows Big Dividends

Continued from Page 79

duty to report same. At the tire record room, one man handles all records and posting.

Twice each year we make a spot check inventory of every vehicle and its tires, showing location of each tire, brand number, and serial number. This check is completed in one day. The information goes to the tire record department, where the record cards are reposted according to the check findings, and all corrections are made.

This spot check twice yearly has cured a lot of our tire troubles. First, it told us that we did not own a great many tires which our card records show we owned. It gives us a chance to gain a correct and honest picture from a study of our record because the record now shows the real condition of the fleet tire spread.

Trailer Interchange

At each terminal we have a regular tire man, or a trained mechanic assigned to part-time tire work, who handles the entire transaction on trailer interchange. This includes filling out the records on the vehicles.

This man inspects and passes on each foreign trailer we accept. He also fills out the trailer interchange receipt and inspection report on our ETMF trailer at the time it leaves our line; recording the tire brand number, the percentage of tread on each tire, and any special notes as to condition.

When this trailer comes back to us, the same inspection and report form is filled out. This gives something to use in making our comparison to determine the tire wear while the trailer was away from our line.

One copy of this inspection report stays with the trailer and is carried in a waterproof envelope attached to the trailer. Another copy is forwarded to our tire department; both the initial report when the trailer left us and the final report when it was returned.

By making this in and out check we have been able to spot abuse and some cases of tire switch on trailers away from our lines. If a tire is missing (every unit of ours carries a spare tire, both tractor and trailer), we immediately send out a bill for it. Before we put in this system we lost a great many tires because we did not have this in and out check forwarded immediately.

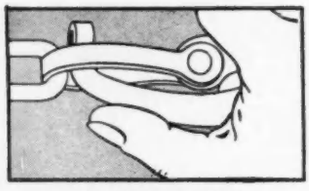
And I think here is the key to each step in our tire program which is giving us a $150,000 annual savings: Rather than setup a lot of arbitrary rules; we have worked out what we felt was a common sense program, explained it to our employees in such a way that they understand and understanding, are willing to cooperate.

END

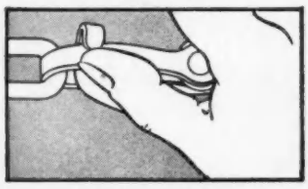
Please Resume Reading Page 80

ALL HODELL TRUCK CHAINS

HAVE ONE* HODELL HAND FASTENERS



EASY TO CLOSE



EASY TO OPEN

Nothing to Clog

Heavy-duty, ONE-HAND fasteners are standard on all Hodell Truck Chains. This exclusive, patented feature holds Hodell Chains securely under the roughest and toughest road conditions . . . makes it easy to put on or take off Hodell Truck Chains.

All Hodell Bar-Reinforced Truck Chains have the new V-type lug reinforcing bars to give extra traction . . . extra wear. Hodell Truck Chains are made in all sizes of Regular, Extra Heavy and Bar-Reinforced. Hodell Dual Pneumatics come in three types: for outer tire only . . . or full-width cross chain to cover both tires . . . or with triple side chains and staggered cross chains for increased traction. Be sure to get rugged Hodell Truck Chains for maximum wear and protection. Write us today about your requirements.

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Div. of The National Screw & Mfg. Co.

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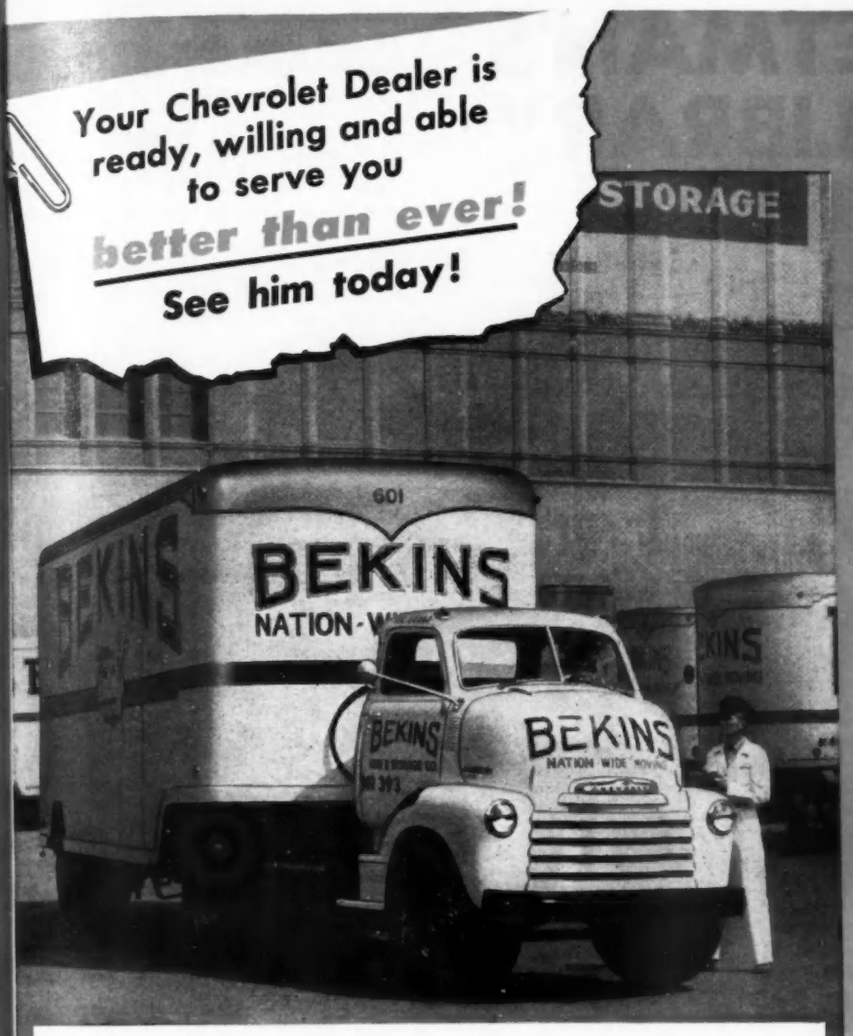
National Products — Fasteners — Hodell Chains — Chester Hoists

Your Chevrolet Dealer is ready, willing and able to serve you **better than ever!** See him today!

Fleet Owners:

Here's 1 of the 4 Big Benefits you get

when you deal with YOUR CHEVROLET DEALER . . . YOUR PARTNER IN SERVICE



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Your service work is more reliable when you use Genuine Chevrolet Parts for replacement. They're made to function better . . . last longer.

Here are the other 3 ➡

Technical Helps in Solving Service Problems

Helps like the "Time Saver" shown here enable you to solve tough service problems quickly and accurately. You do jobs the *right* way—*right away!*

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You get parts you want in a hurry. What's more, Genuine Chevrolet Parts fit right . . . save time on the job. Installation is quicker, simpler, easier.

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FLEETMAN'S LIBRARY

(Continued from Page 88)
cases and correction of clutch troubles. Reconditioning is fully covered, including many sketches and photographs. Copies are available at $1 each from Sales Service Dept., Accurate Parts Mfg. Co., 1600 South Ashland Ave., Chicago 8, Ill.

Interstate truck taxes are reviewed in this brief but comprehensive 8-page review of the position, policies and recommendations of American Trucking Assns. You should have a quantity of these booklets to give to those who do not understand truck taxes. You can get them from the association without charge at 1424 Sixteenth St., N. W., Washington 6, D. C. Ask for, "A Quick Look At Taxation of Interstate Trucks."

This catalog on **nylon bearings** includes, in addition to full description of "Nylined" bearings and "Nyliners", engineering data, installation information and a bearing evaluation chart. Write Thomas Industries, Inc., Manhasset, New York, for a free copy.

Lubrication guide covers trucks, buses and coaches. The sixth edition in this series, it has a larger page size than before, 8½ x 11¾, is fully illustrated for "follow-the-chart" lubrication. For information on cost, write The Chek-Chart Corp., 31 East Congress St., Chicago 5, Ill.

Fan belt, hose, and floormat specifications for light trucks, including 1954 models, is given in this new, four-page chart available free by writing Raybestos Division, Raybestos-Manhatten, Inc., Bridgeport 2, Conn.

Aluminum bodies saved money for the 30 companies represented in this fully illustrated, 51-page booklet that describes fleet-by-fleet just how the savings were obtained. Maintenance and repair facts are also included. Write Aluminum Co. of America, 734 Alcoa Bldg., Pittsburgh 19, Pa., and ask for your free copy of "Profitable Trucking."

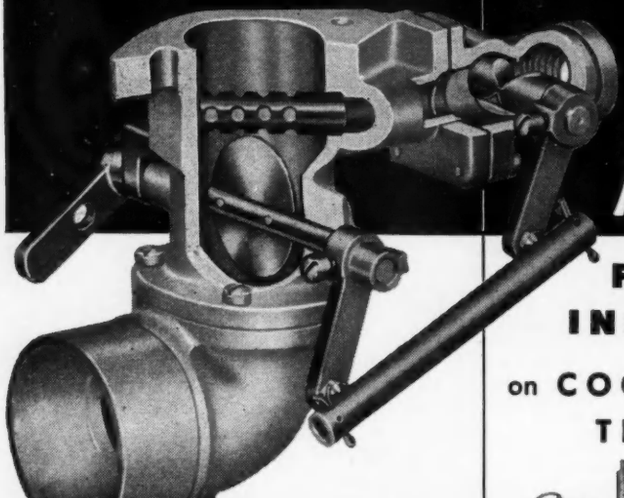
Vehicle fires as reported to the ICC in the five-year period, 1947-1951, latest available data, are analyzed and discussed in this well illustrated, 19-page booklet. Copies are 35¢ each (discount for quantities) from the National Fire Protection Assn., 60 Batterymarch St., Boston 10, Mass. Ask for "Highway Fires," a reprint from the April, 1954, NFPA Quarterly.

Spray painting equipment manufactured by Binks Mfg. Co., is completely described in the company's new, comprehensive, 74-page catalog. For a copy write Binks at 3122 Carroll Ave., Chicago 12, Ill., ask for Catalog No. 956.

End

Please Resume Reading Page 90

CENTURY
LP-GAS CARBURETOR



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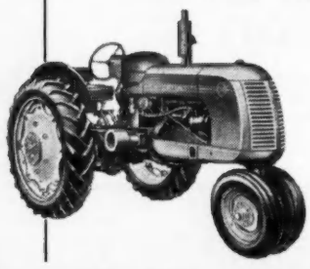
FACTORY INSTALLED
on COCKSHUTT TRACTORS



Cutaway view of Model 3C Century Updraft Carburetor

ACCEPTANCE AS FACTORY STANDARD PROVES CENTURY'S SUPERIORITY

Century is one LPG carburetor that maintains peak efficiency at all speeds and power ranges, at any temperature, at any altitude.

Always in perfect balance, the performance curve is pre-set in every Century Carburetor by the self-synchronizing design of the progressive jet, gas metering valve and the butterfly air valve.

For full power or idling you get a perfect mixture at all times with maximum fuel economy. Just set it, seal it and forget it!

No wonder Cockshutt has joined the growing list of tractor, truck and engine manufacturers who are increasing satisfied customers by factory installing Century LPG Carburetors! Get the facts—write for Bulletin No. 153.

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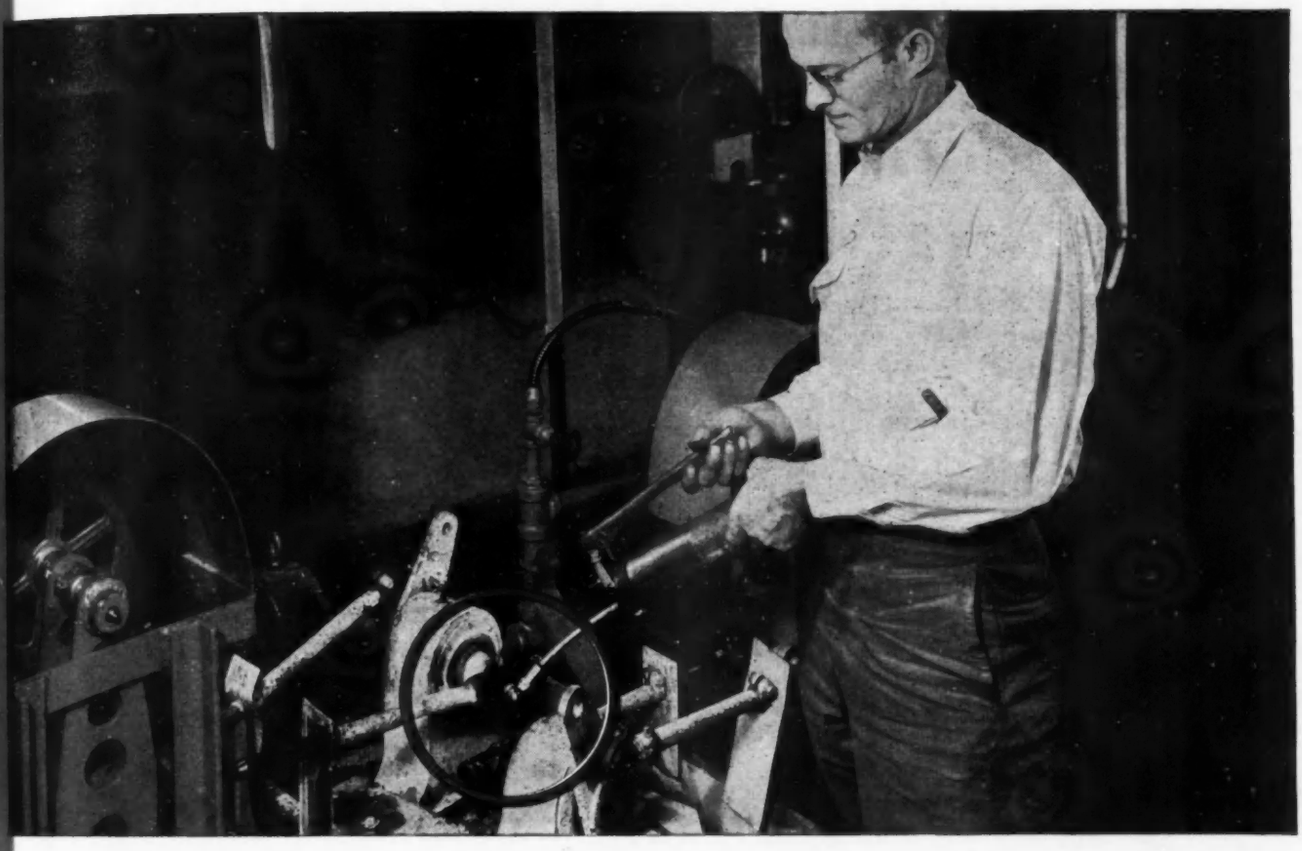
CENTURY ★ SET IT! ★ SEAL IT! ★ FORGET IT! UL
LP-GAS CARBURETION

You can count on

Thompson's Performance-Tested steering linkage



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IT'S not a *whole* car, of course. Just the important center link of a Thompson precision-made steering linkage. In the above picture, the center link is getting its daily... yes, *daily*... 1500-mile lubrication!

AROUND THE CLOCK—This is part of a grueling Performance Test that goes on in Thompson's Testing Laboratory 24 hours a day. Here the most extreme, difficult road conditions are duplicated. The Thompson steering link is subjected, hour after hour, day after day, to baths in mud and water . . . dry spells . . . jarring jolts of 300 pounds or more . . . and grinding, burning friction.

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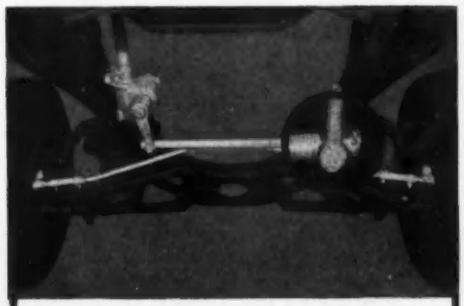
WHY THESE TESTS? Because Thompson is continually striving for *improvement* . . . in materials, in performance, in manufacturing procedures. New materials, new processes, new designs are all subjected to these thorough Performance Tests . . . and always under the most extreme conditions.

THE RESULTS? These exacting tests in the laboratory and out on the open road . . . plus periodic skilled analyses by experienced Thompson engineers . . . result in the finest possible steering linkage for America's cars, trucks, buses and tractors.

If you have a steering linkage problem, let Thompson's steering engineers help you. Just write or phone Thompson Products, Inc., Michigan Plant, 7881 Conant Ave., Detroit 11, Mich., WA 1-5010.



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Tests Show How to Control Tire Fires

Continued from Page 75

A particular problem of fires where such a high heat is involved is the probable recurrence of the flame or "flash-back" after the initial extinguishing. In tire fires, this flash-back can occur several times.

In the PMTA tests, in one case, there was an immediate flash-back after use of two extinguishers. The flames were subsequently killed with unlimited quantities of water-fog from a fire truck, but they remained "out" for only 15 min before another flash-back occurred.

Engineering Factors Contributing to
BETTER GOVERNOR
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GOVERNED ENGINE SPEEDS
Over the past thirteen years while governed engine speeds have been inching upward, King-Seeley engineers have revised practices and added refinements to provide progressively better governor performance. Some of these are:
1 Much finer, more positive calibration and at both ends of the speed range instead of just one.
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King-Seeley maintains a continuous research program to anticipate automotive developments and provide governors having increasingly better performance.
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In seven out of the nine ATA tests where a fire was obtained, there was recurrence of the flames. In one case there were four flash-backs, with the interval between them varying from 2 to 32 min. Another tire fire also flashed-back four times with intervals from ¾ to 8 min. Upon return to the test site the following day, ATA's testers found the tire had entirely burned-up during the night. In another test, there were also four flash-backs varying between 1 to 4 min.

This flash-back hazard with tire fires makes it important not to exhaust completely available fire extinguishing capacity in the first attack on the tire fire.

Extinguisher Capacity

Experience data from all three test reports indicates that extinguishers usually carried on most trucks do not have sufficient capacity to control a blazing tire fire. For example, compare the present ICC requirement of a 4-lb carbon dioxide, 1½-qt carbon tetrachloride or 4-lb dry chemical extinguisher with the actual equipment used by the various groups, as follows:

1. Nebraska—a 25-lb dry chemical, a 20-lb dry chemical, a 2½-gal loaded stream, and a 2½-gal water pump tank.

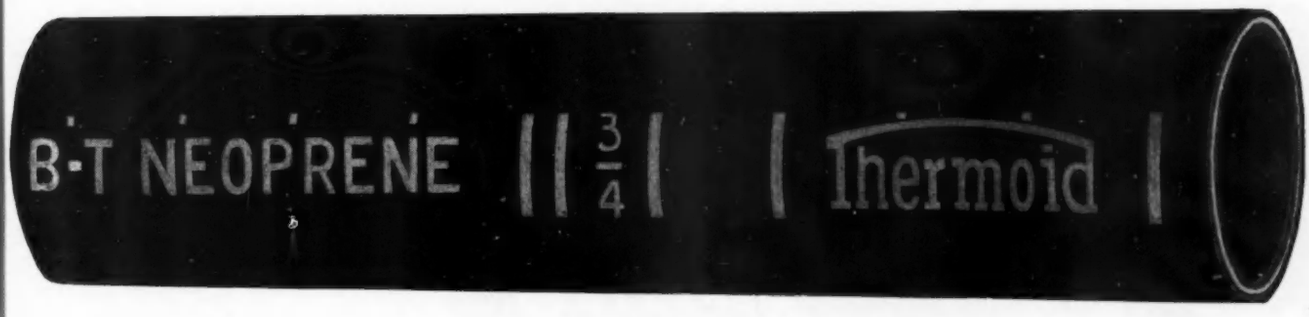
2. ATA—four 1-gal carbon tetrachloride, four 2½-gal wet-water type, two 30-lb dry chemical, a 2½-gal foam-type, four 2½-gal loaded stream, and four 15-lb carbon dioxide.

3. PMTA — two 1-gal chlorbromethane, and two 2½-gal loaded stream.

Fleetmen are cautioned that the above extinguisher capacities cannot be compared as equivalents needed to control tire fires. They are listed only as a comparison between present ICC requirements and what was actually used to fight the tire fires in the various tests. Because the test fires varied considerably in length of build-up time, in condition of the tires and in other equipment being used concurrently to control the fire, it would be incorrect to attempt to

(TURN TO PAGE 136, PLEASE)

4 times greater resistance to trouble!



OTHER THERMOID HEAVY DUTY PRODUCTS FOR COMMERCIAL FLEETS

Thermoid BT Neoprene Radiator Hose is built to meet the most severe conditions of bus and truck operation. Neoprene both inside and out, it provides four times greater resistance to oil, grease and gas fumes . . . withstands 100° higher outside temperatures than ordinary hose . . . will not char or blister. Plied cord construction allows flexibility that withstands misalignment and vibration. Test Thermoid BT Neoprene Hose on the toughest job in your fleet.

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Brake Linings • Fan Belts • Radiator Hose • Hydraulic Brake Parts and Fluid • Car Mats • Clutch Facings • Thermoid Precision Process Equipment.

. . . Control Tire Fires

Continued from Page 134

say the extinguisher capacities as summarized above are equal in tire fire fighting ability. In several cases the above equipment was not sufficient to control the fire.

Extinguisher Recommendations

ATA's preliminary report says, "We can't recommend any specific type of extinguisher." The report does suggest that extinguishers be equipped with a shut-off valve so as to conserve the extinguishing material so it may be available in case of a probable flash-back. Also, if the extinguishers are of liquid type, they should have a spray-type nozzle rather than solid stream. It was observed that the solid stream appeared to bounce off the tire and be wasted.

ATA also used, in controlling the tires and removing wheels, (1) a 20-ton jack and handle, (2) asbestos gloves, (3) a 10 x 10-ft asbestos blanket, (4) a lug wrench and (5) a 4 x 4 x 2-in hardwood block.

The Nebraska report recommends that each truck have (1) a hand extinguisher of "not less than" 25-lb dry chemical, 2½-gal loaded stream or 5-gal winterized-water type, and (2) an asbestos blanket.

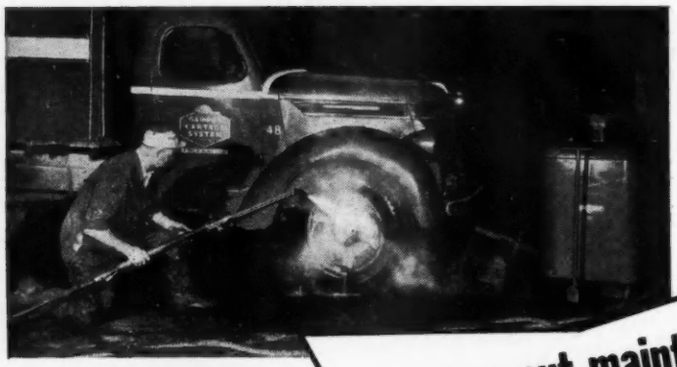
Asbestos Blanket

In all three tests various types of fire-resistant blankets were dropped over the burning tires to control the flames. Most successful of these was an asbestos blanket. At the Nebraska tests, a blanket of this type was put around two flaming tires with a recorded temperature of 250 deg F and left on for 15 min. Although the tires continued to burn, the rate of combustion apparently was considerably slowed due to the exclusion of oxygen. At the end of the 15-min period, a 2½-gal water pump tank extinguisher stream was directed under the blanket and the blanket then removed. A flash-back did occur at the base of the tires.

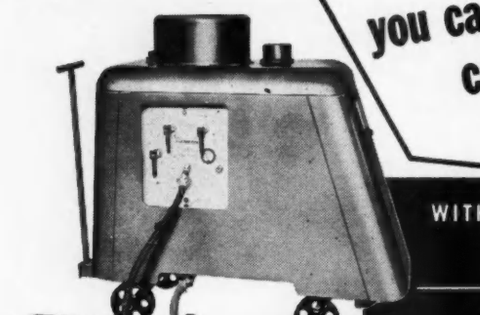
ATA used a similar asbestos blanket to prevent the spread of a tire fire to the trailer floor while the fire was being extinguished with 30-50 gal of water. Subsequently, ATA covered a burning tire with an asbestos blanket for one hour. Although the fire was successfully contained for that period, it did burst into flame again when the blanket was removed.

The asbestos blanket used at the PMTA test was pulled around a set of blazing dual tires when their temperature exceeded 1112 deg F—the limit of the potentiometer. Smoke was apparent during the time the blanket was on the tires but no flames. After the blanket had been on for four minutes, the temperature on top of the blanket was 302 deg F and after 11 min it was 212 deg F. The blanket was removed after 14 min

(TURN TO PAGE 138, PLEASE)



you can cut maintenance costs by saving man-hours



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Besides cutting maintenance time and labor expense by cleaning equipment *10 times faster . . . and better,* than any other known method, Series "1200" Hypressure JENNY Combination shortens vehicle repairs as much as 40% by removing the muck, dirt and grease that slow mechanics down and run up costs. Combination JENNY cleans motors . . . chassis . . . wheels . . . springs; removes sand and grit from lubrication fittings; reverse flushes complete cooling systems—radiator, motor block and heater; keeps floors . . . walls . . . pits . . . lifts . . . tools and equipment clean for safe, efficient, economical shop operation.

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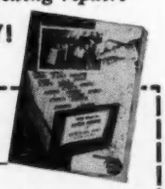

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"WORLD'S LARGEST TRUCK"

USES VICKERS® HYDRAULICS for STEERING and DUMPING

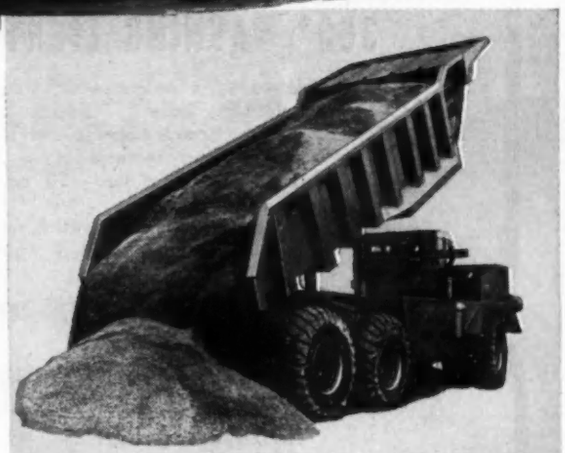
Dart Model 60 Truck is shown carrying full 75-ton payload.

This Dart behemoth with a gross vehicle weight of 240,000 lb is said to be the largest truck in the world. It has two engines totaling 700 horsepower. Everything about it is on a colossal scale.

A new hydraulic circuit was developed by Vickers expressly for Model 60. The driver steers this truck with no more effort than he would a passenger car as the steering gear merely actuates the valve that controls the flow of oil to the steering cylinders. Twin cylinders provide 50,000 lb steering force (at 1000 psi oil pressure) for the dual front wheels.

Dart is thoroughly familiar with the many advantages of Vickers Hydraulic Power Steering having used it since 1938.

Vickers hydraulic equipment is available for all types and sizes of mobile equipment. Ask for new Catalog M-5101.



Vickers hydraulic power dumps the load; twin hoists are rated at 130,000 lb push at 1000 psi oil pressure.

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REPRESENTATIVE STANDARD VICKERS UNITS USED ON DART MODEL 60

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ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921

3 BRAND-NEW ARROW PRODUCTS
GIVE YOU GREATER SAFETY, GREATER VALUE

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NEW JUMBO MIRROR ASSEMBLY
(includes braces and hardware)

- Giant mirror head—6⅞" wide, 16" long
- Silvering is guaranteed not to discolor—glass is rubber-mounted, replaceable
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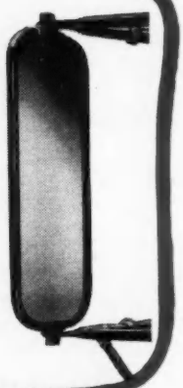
- Mirror head available separately, or with L brackets



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NEW, GIANT FRESNO-TYPE 360° WARNING LIGHT

- Giant size—6⅜" in height, 4½" diameter lens, 6½" diameter base
- Can't rust—metal base is chromeplated heavy gage brass, completely waterproof
- Highly visible red glass lens—50 candlepower bulb
- Also available in kit form, with switch, flasher and wire

360° Emergency Warning Light Model 37W

NEW, SLIM SIDE-WIRE-MOUNTED MARKER LIGHT

- Side wire exit permits running wire through ribbing on outside of trailer—leaves inside clean; can also be wired inside trailer
- Base can be mounted by rivets for waterproof installation or by screws
- Trim and neat—only 1 13/32" in depth, 3 11/16" in diameter
- Fadeproof red, amber or green glass lens—3 candlepower bulb, easily replaced by removing foolproof snap ring

Marker Light Model 49

SEE YOUR ARROW JOBBER TODAY FOR THESE AND OTHER ARROW SAFETY-AFTER-DARK PRODUCTS

ARROW
SAFETY AFTER DARK

Arrow Safety Device Company, Mount Holly, New Jersey

. . . Control Tire Fires

Continued from Page 136

and a flash-back occurred immediately.

Take Tires Off?

ATA's preliminary report recommends use of an asbestos blanket, 10 x 10 ft, to contain the fire as a last resort. The recommendation from the Nebraska test is to use an asbestos blanket to contain the fire until the fire department arrives, leaving the tires on the axle.

Probably the principal reason for the Nebraska recommendation to leave the burning tire contained in the blanket on the wheel is the high temperatures—2100 to 2350 deg F — encountered when the tires are blazing. On the other hand, the ATA test results showing a temperature range from 340 to 570 deg F before the tire casing is ablaze indicate that the following procedure could be used to control the fire:

1. Douse the tire with sufficient extinguishing material to knock down the flame.
2. Tie on the asbestos blanket.
3. Jack-up the truck or trailer.
4. Remove the blanket and extinguish any flash-back.
5. Take off the wheel lugs and remove the wheels to a safe distance from the vehicle and recover them with the asbestos blanket.

The driver will have to be trained in knowing whether or not the fire is sufficiently advanced so as to stop him from following the above procedure however. It is probable that wheel removal may be the best bet only if the tire casing is not, as yet, involved in flames.

Other types of fire resistant blankets made of treated canvas, fiber glass, etc., were tried at the Nebraska and PMTA tests. Results of these tests and recommendations from the Nebraska and ATA tests indicate that their use would not be as successful as that of an asbestos blanket.

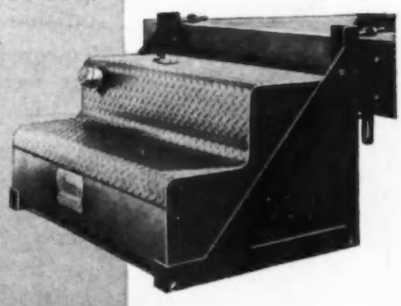
An interesting part of the Ne-

(TURN TO PAGE 140, PLEASE)

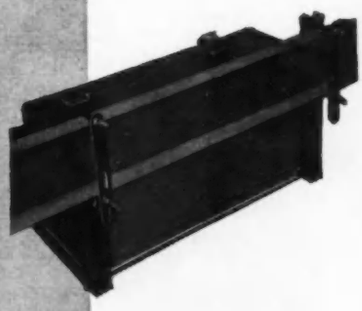
THE BEST SALES STORY

Mr. L. B. Brown, president of Best Motor Lines, recently announced the addition of forty new International RD-190 twin screw tractors and ten 35-foot refrigerator trailers to their fleet. To transport larger loads within legal axle and gross weight limitations each of the forty new tractors was equipped with a set of new Prior "L-Step" Safety Tanks.

Prior "L-STEP" SAFETY TANKS



The latest development in a pay load increasing safety gasoline or diesel fuel tank incorporating all of the safety features of the Prior line. Designed for under-cab mounting. From 300 to 500 lbs. weight transferred to the front axle depending on capacity of tank being used. Full length step gives all safety features of the present running board. Easily installed with no drilling or welding necessary (see illustrations). Brackets are separate from tank, eliminating strain on tank heads. Furnished in various sizes, three diameters, for mounting on any make truck. Meets I. C. C. requirements and U. L. approved up to 75 gallons capacity per tank.



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PRIOR PRODUCTS, INC. DALLAS, TEXAS · Prior · MIDDLETOWN, OHIO

. . . Control Tire Fires

Continued from Page 138

braska tests was the use of fire retardant chemical on the simulated trailer floor. These tests were conducted using dual tires mounted under a platform constructed of 2-in wooden material to simulate the under side of a trailer or truck body. This frame was painted with two coats of the fire resistant chemical and one application of protective undercoating.

On the first test, the undercoating burned ". . . very rapidly and aided combustion." This led to the recommendation that the fire retardant chemical be protected with a metal plate or shield rather than undercoating.

While the temperature of the tire fire in the first test rose to 2100 deg F, a thermocouple placed on top of the simulated truck floor ". . . indicated no temperature rise, pointing up the fact that heat travels very slowly through wood planking." The second and third tests also resulted in no heat rise on top of the test floor.

Dragging Brakes

ATA concluded its tire fire testing by running three tests with dragging brakes. An interesting result in two of the tests was that, following the creation of a fire in the brakes, the grease seal failed, permitting grease to flow out of the wheel bearing and add to the flames. In these two cases, the fire was extinguished before the tires became involved.

The report comments that the failure of the tires to burst into flame might be due to the absence of internal heat which did not have time to build-up before the brake fire broke out.

Easier to Prevent

Prevention seems the easiest way to control tire fires. No elaborate program is necessary. In most cases, careful attention to such routine procedure as (1) using correct inflation pressures, (2) making regular periodic pressure checks, (3) matching of dual tires and (4) mounting tires properly will do the job.

On the highway, an occasional check for smoke is a good idea in addition to watching for flats. In some cases, the smoke check can be made without stopping through use of the side mirrors.

Since dragging brakes can also create enough heat to cause a tire fire, adequate adjustment, maintenance and lubrication to prevent this trouble should be routine in an efficient fleet. Before each trip, the driver should be sure that all brakes are releasing properly.

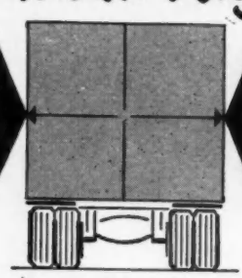
Certainly such a prevention program is less costly than equipping each truck in the fleet with an asbestos blanket, a 20-ton jack, extinguishers with 6 or 7 times as much capacity as those in use at present, plus undercoating all vehicle floors with fire retardant.

END

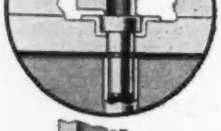
Please Resume Reading Page 76

For Maximum Payload Space

WITH GREATEST LEGAL WIDTH, USE No. 5660

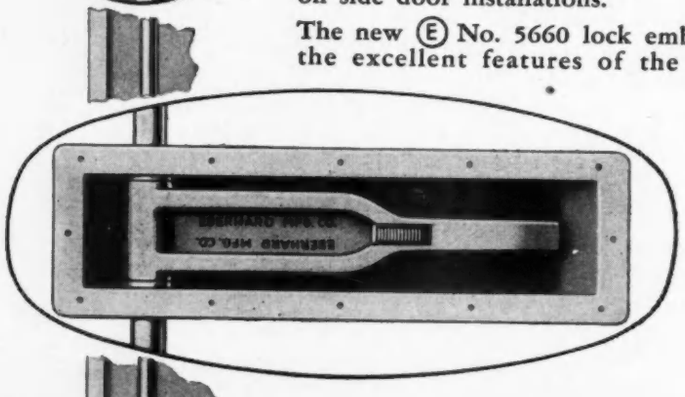


FLUSH TYPE LOCK



The SPECIAL RECESSED FEATURE of this new flush-type lock permits building the vehicle to the GREATEST LEGAL WIDTH for MAXIMUM CARGO SPACE, on side door installations.

The new (E) No. 5660 lock embodies all the excellent features of the popular



"Clamptite" and Eber-"Grip"-Hard locks used to great advantage by body builders everywhere. Built for long service life with smooth, positive cam-closing action. Thumb-trigger release contains hole for padlock and seal. Furnished in right and left hand models.

Write for CATALOG and Full Particulars

EBERHARD Long Run TRUCK BODY FITTINGS

EBERHARD MANUFACTURING CO.

Division of the Eastern Malleable Iron Co. EVARTS AVENUE CLEVELAND, OHIO

He's on the highway. He needs Timken-Detroit axles. Identical axles in our indoor proving ground are subjected to tests so rugged they're comparable to a half-million miles or more of high-speed, non-stop, uphill-downhill operation with capacity load . . . hour after hour, 24 hours a day, for days! Only Timken-Detroit "Torture-Tested" axles can take this brutal treatment—to assure top performance—make more money per load!

beating

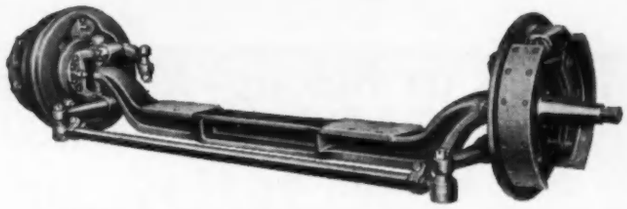
TIMKEN Detroit AXLES

TIMKEN-DETROIT AXLE DIVISION
ROCKWELL SPRING AND AXLE COMPANY
DETROIT 32, MICHIGAN

The Accepted DTA Standard
TRADE MARK REGISTERED

"TORTURE-TESTED"
to *Save Money on the Job*

WORLD'S LARGEST MANUFACTURERS OF AXLES FOR TRUCKS, BUSES AND TRAILERS

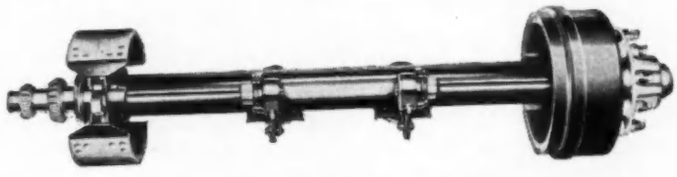


Timken-Detroit "Letter Series" Front Axles

Here is easy, positive steering control. A little man can handle a large rig with TDA front axles as easily as a big 210-pound, six-footer, at fast or slow speeds . . . on smooth or rough roads. No wheel kickback. Tractor hook-ups have smallest possible turning radius—greatest maneuverability.

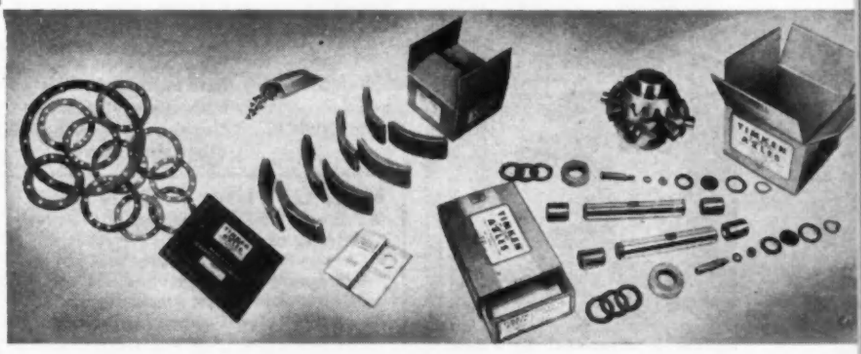
Timken-Detroit "Letter Series" Rear Driving Axles

Hypoid gearing for truck axles was pioneered by Timken-Detroit. And only Timken-Detroit has Hypoid gearing in a complete "family" of 7 basic axle capacities—in the entire range of medium and heavy-duty requirements. This advanced-related design incorporates the same features of construction and interchangeability in a choice of 3 types of Hypoid final drives using the same axle shafts and housing—single-speed; single-speed double-reduction; and two-speed double-reduction units.



Timken-Detroit Tubular Trailer Axles

Famous for their light weight. Produced in the largest, most modern axle plant in the world. Lightweight Fabricated Brake Shoes with Econo-liners for greater wear, longer service. Alloy steel spindles electrically welded to tubular housing—with welding guaranteed for the life of the axle. Lightweight Nylon Bushings in Brake Camshaft Assemblies.



Increase axle life with Genuine TDA Equipment Parts

Take no chances with ordinary replacement parts. For sure, dependable factory-type jobs, look to genuine Timken-Detroit axle parts kits—identical to your axles' original equipment.

Each kit is *complete*—gives you everything you need—in one handy package. Gaskets and shim parts, brake liners, steering knuckles, differential gears—for every size of brake and axle. Order by number from your dealer. Cut labor and adjustment costs. Get trucks back on the road quicker!

Plants at: Detroit, Michigan • Oshkosh, Wisconsin • Utica, New York • Ashtabula, Kenton and Newark, Ohio • New Castle, Pennsylvania

Trailers on Flatcars—A Progress Report

Continued from Page 70

the "shippers" wishing to use the service.

It seems likely that a "test case" will be developed to obtain a ruling covering a situation in which a railroad offers TOFC service to common carriers but refuses to accept the trailers of private carriers.

Although continued conflict can be expected, the Piggy-Back picture is clearer now than it has ever been. In recent months, truckers, railroads and regulatory authorities have stated their positions concerning the basic questions involved in TOFC operation. Most significant of these was the report issued by the Interstate Commerce Commission on August 6.

The ICC report contained answers to a number of basic questions concerning the principles of TOFC service. It resulted from a series of questions originally posed by the New York, New Haven & Hartford Railroad.

Ground Rules

The highlights of the report:

—Railroads may operate TOFC service for their own freight in their own or leased trailers, at railroad rates, between terminal areas served by the railroad, without operating rights as motor carriers. Movement of trailers within the terminal areas of the railroad in this service is exempted from the need for motor carrier operating authority. The report stated that basically the transportation of freight in trailers on rail flatcars is transportation by railroad for which a motor carrier certificate is not required.

—Railroads may transport trailers of private motor carriers and freight forwarders in TOFC service under provisions of rail tariffs open to the general public. Contract carriers may not use the service if the rail movement is within the scope of their operating permit, but may use TOFC service to points beyond the scope of their permit as agents for the shippers.

—Railroads and motor common carriers may set up joint rate arrangements on a TOFC service. If this is done the railroad may make such arrangements with some motor common carriers, refuse to establish them with others.

—Common carrier truckers may *not* use TOFC service if it is available to the general shipping public on a charge-per-trailer basis unless there is a through-route arrangement between the railroad and the motor carrier.

—In a substituted rail-for-motor service involving TOFC movement, the relation of railroad to motor common carrier is that of connecting carriers. It declined to define the relationship in arrangements other than that of substituted service.

—Railroads may not deny TOFC service to freight forwarders if it

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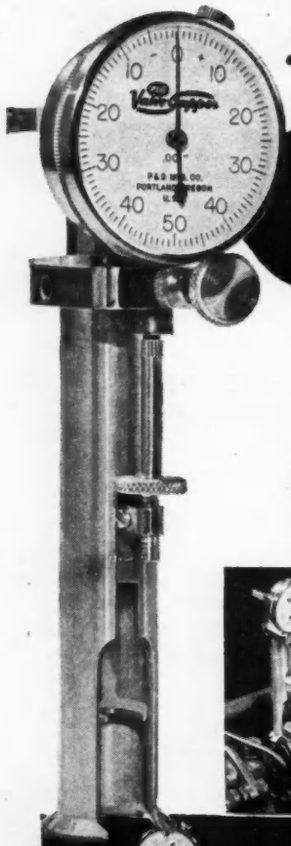

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P&G Valve-Gapper

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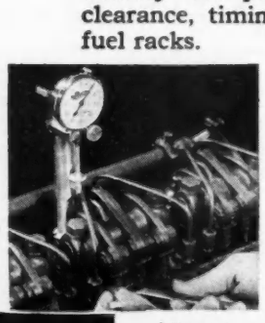
▸ TIME FUEL INJECTORS
▸ BALANCE FUEL RACKS

with Micrometer Accuracy

This new precision instrument utilizes an entirely new principle in adjusting valve clearance, timing injectors and balancing fuel racks.



Adjust valve gap accurately

- Easy, fast, accurate for mechanics, operators, owners.
- Eliminates inaccuracies of individual "feel".
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MODEL 111 for GAS ENGINES

- Use on all passenger cars with valve-in-head engines.
- Check valve gap visually and get Micrometer Accurate readings BEFORE, DURING and AFTER Adjustment.
- Use the Valve-Gapper for instant location of noisy or defective hydraulic lifters.

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SOCKETS

The famous New Britain top quality thin wall Sockets . . . fit easily into tight spots on modern motors. ¼", ⅜", ½" and ¾" Drives in all needed openings. Triple plate, chrome finish.

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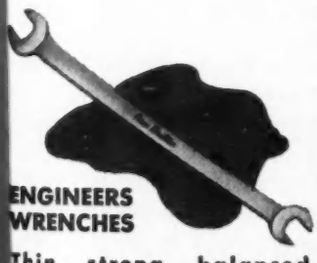
Sturdiest, smoothest Ratchets made. Exclusive double pawl mechanism gives extra strength without bulk. Streamlined head gets into confined spots easily. ¼", ⅜", ½" and ¾" Drives.



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Thin, strong, balanced Wrenches, forged of finest alloy steel. Open End, Box, Tappet and Combination styles in all sizes.

The New Britain Line has set a world standard in Tool Quality for many years. Naturally, these great Tools have the precise fit, perfect balance and great turning power modern repair work demands . . . slim, trim, but powerful Socket Wrenches and streamlined Drive Parts — all of the finest alloy steel, heat treated to the peak of rugged perfection and glistening, triple plate, chrome finish. New Britain offers in this complete Line not alone the basic Tools shown, but hundreds of specialized Tools that get mechanics into and out of tight corners and difficult spots on modern engines and equipment. Ask for complete Catalog No. 58.

Shown above is a magnificent New Britain Set #6151T with every basic Tool any professional mechanic will ever need. All 151 Tools contained in a sturdy steel Kit with hinged top and removable trays. Ask about it and the many other New Britain Sets that can be tailored to your particular needs.

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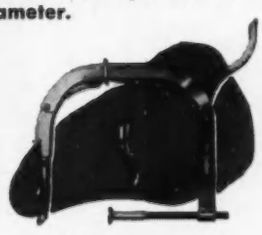
New Britain Tools afford a complete selection of individual Tools and Sets for reaming or honing bushing of $15/32$" diameter to cylinders 8" in diameter.



VALVE LIFTERS

Available in sizes and types to service all makes and models of passenger cars, trucks, buses and tractors.

STUD EXTRACTORS

Modern design Tools for retracting or setting studs. Slip-proof design with milled jaws. Made in ⅜" and ½" Square Drive — capacities ¼" to ¾".

New Britain HAND TOOLS

THE NEW BRITAIN MACHINE CO.
NEW BRITAIN, CONN.

Trailers on Flatcars

Continued from Page 144

is made available to private motor carriers. However, railroads and freight forwarders may not establish through routes and joint rates.

The Commission declined to answer whether a railroad could deny TOFC service to private carriers or freight forwarders if it was engaged in TOFC service with motor common carriers under joint-rate arrangements. It said that a definitive answer to this question could not be given except in relation to a concrete case, but added :

"As an operating matter, the physical performance of the service (assuming it then to be a going operation) will have been demonstrated to be feasible and practical. It might not then be reasonable to say unqualifiedly, that motor common carrier trailers could physically be accommodated but private carrier trailers could not."

In arriving at these rules, the ICC considered briefs filed by railroads, shippers, freight forwarders, and various types of motor carriers. In these briefs and oral arguments the various groups expressed the position of their own special interests. It is likely that a number of the present rules will be appealed either in future ICC proceedings or, if necessary, in court actions.

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handles dual wheels up to 600 lbs.
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• Outboard Support counteracts weight . . . assures precision cutting.
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Positions Taken

The following is a summary of the stands taken by various groups interested in TOFC service as shown in the briefs filed with the ICC and in other published statements.

1. Motor Common Carriers. Big fear of motor common carriers is that railroads will use TOFC service as a competitive weapon to regain inter-city traffic lost to trucks. To prevent this, the common carriers asked the ICC to rule that a trailer-on-flatcar operation required a certificate under Part II of the IC act (Motor Carrier regulation), either in the hands of the railroads (for rail-billed traffic) or in the possession of motor carriers using the service.

The ICC ruled against the truckers on this question in its answers to the 12 questions, although it seems very likely that this ruling will be appealed.

2. Private Motor Carriers. Two groups of private carriers took part in the TOFC proceedings before the ICC; the private Carrier Conference of ATA and the Private Truck Council of America. In essence, both associations sought to assure that if a TOFC service is set up it is available for use by private motor carriers. Most of the services now in operation or in the planning stages are limited to trailers owned or leased by the railroads or to those of motor common carriers. Both groups of private carriers claimed that the movement of trailers other than those directly owned or controlled by the railroads is basically a service offered by the railroads to shippers as part of the railroads' operation as a common

(TURN TO PAGE 148, PLEASE)

STEEL-VENT'S

2 Way Action

DOES IT!

1 REDUCES CYLINDER WEAR
Extra Oil-Carrying Capacity puts more oil on cylinder walls in the wear zone.

2 CONTROLS OIL PUMPING
Extra Oil-Draining Capacity lets excess oil drain back into the crankcase.

Two-Way oil control permits the right amount of oil to circulate the split-second it's needed to protect vital friction zones. The Steel-Vent is designed to meter a generous amount of lubrication up to the compression ring wear zone—holding wear to the absolute minimum.

Steel-Vent design also permits fast drainage of excess oil back to the crankcase. And they can't clog—with every stroke of the piston, Steel-Vents flush away carbon deposits. You'll never see a clogged Steel-Vent.

In hundreds of thousands of re-ring, re-bore and re-sleeve installations, Hastings Steel-Vent Piston Rings have proved they reduce cylinder wear and stop oil pumping.

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Piston Rings, Casite, Caslube, Drout, Oil Filters, Spark Plugs

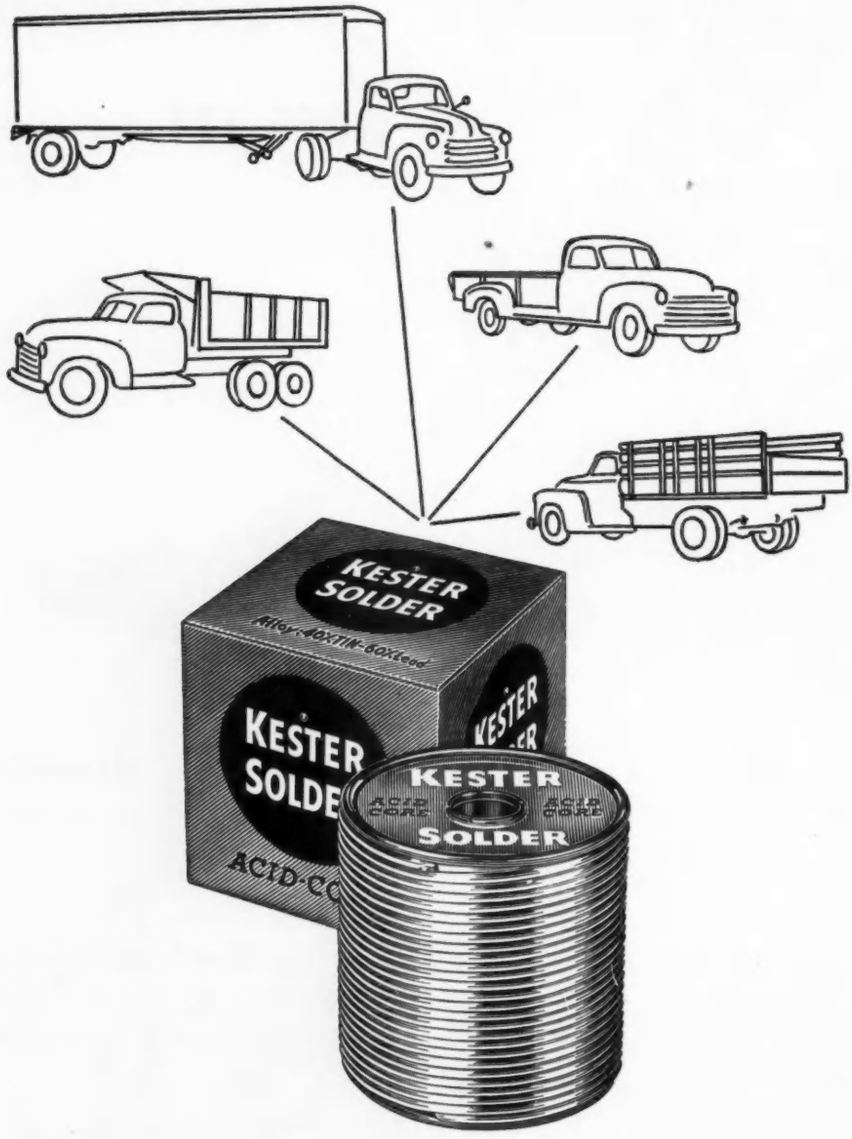
HASTINGS

STEEL-VENT PISTON RINGS

Regular or Chrome-Faced

REDUCE CYLINDER WEAR · CONTROL OIL

FORGET THE REST...



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Trailers on Flatcars

Continued from Page 146

carrier. They stated that the service may not be limited to motor common carriers, but must also be made available to all shippers who wish to send their trailers by rail. In effect, the private carriers claimed, if a railroad provides a TOFC service to motor common carriers by issuing a bill of lading for a trailer without regard for its contents, the motor carrier becomes a "shipper" rather than a connecting carrier with the railroad.

ATA's Private Carrier Conference opposed the idea of "captive" TOFC service, while the Private Truck Council did not mention this type of operation in its brief. The Conference took the position that the only type of TOFC service which should be permitted is one in which the railroad offers to move the trailers of all "shippers" who wish to use the service, and that rates for such service should be non-discriminatory.

In its report the ICC ruled that private carrier trailers may be handled in a TOFC service, but declined to state categorically that a railroad must offer the service to private carriers if it has a joint rate arrangement for the service with motor common carriers. It did, however, rule that motor common carriers may not use a TOFC service on an "open tariff" (one which is available to the general shipping public on a charge-per-trailer basis) arrangement unless the common carrier trucker and the railroad have a through-route agreement.

3. Local Cartage Operators. Spokesman for the local cartage operators has been the Local Cartage National Conference of ATA. As an independent conference, it was at odds with the stand taken by the association as a whole on the basic question of railroad-billed freight moving in TOFC service. The local truckers stated that this type of operation may be carried on without authority under Part II of the IC act provided the off-the-

(TURN TO PAGE 152, PLEASE)

"amazed" him

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TEL. 3-5982

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PHONES 916 - 917

December 9, 1953

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New Castle
Indiana

Gentlemen:

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Although we were not having any particular brake troubles and considered that our brake mileage was adequate, we decided to try your Red Block Combination on some of our units. We were amazed at the increased mileage and excellent drum conditions on these units.

As a result our entire fleet is now operating on World Bestos Red Block sets and we sincerely recommend that any fleet owner interested in obtaining the minimum in cost of brake maintenance try your Red Blocks. We know that the results will speak for themselves.

Sincerely yours,

P. WAJER AND SONS EXPRESS CO., INC.

Stanley Andrzejewski

Stanley Andrzejewski
Maintenance Superintendent

Trailers on Flatcars

Continued from Page 148

rail portion of the operation is within the terminal areas of the railroad. In its brief the conference stated that for the rail portion of such an operation the trailer is actually a "container" rather than a motor vehicle so that essentially it was a railway operation and that the highway movement of the trailers was supplementary to the rail operation and therefore qualified under the exemptions permitted railroad overation of motor vehicles in terminal service.

4. **Shippers.** Main spokesman for shippers has been the National Industrial Traffic League. It backed the railroads' claim that no motor carrier authority for rail-controlled TOFC service was needed provided: (1) The service is at railroad rates; (2) Tariffs are properly filed.

For movement of other than railroads' own trailers the NITL said that non-discriminatory rates must be offered to all motor carriers and freight forwarders and said that railroads and motor common carriers may set up joint or proportional rate agreements provided that such agreements did not result in a rate which was not open to the general shipping public.

Railroad Position

Noticeable differences of opinion concerning the type of TOFC service to be set up have marked railroad attitude since "Operation Piggy-Back" began. Even now, many railroad spokesmen take the position that TOFC service should still be considered as an experiment, subject to modification as experience warrants.

In the proceeding before the ICC, the Eastern Railroads described the following four general types of TOFC service that might be set up by a railroad:

(1) *All-rail ("captive") operation:* The railroad would publish tariffs for a single-vehicle door-to-door service, with freight moving on railroad bills of lading in TOFC service for the line-haul portion of its trip.

(2) *Open tariff:* This would offer TOFC movement of loaded (and possibly empty) trailers to the general shipping public under a published tariff for trailers and would be handled similar to the movement of any other commodity.

(3) *Substituted service:* Tariffs would be published in a substituted service directory showing that a rail carrier might be used as a substitute for the motor common carrier (for the TOFC portion of the service) at the election of the originating carrier unless otherwise directed by the shipper.

(4) *Through-route, joint-rate:* A tariff would be filed appropriate to the establishment of joint rates and through routes between rail and motor common carriers.

While these are the basic general categories, it is apparent that there are other innumerable possible variations of the TOFC service.

(TURN TO PAGE 154, PLEASE)

stop shorter

go longer

WITH HOMAN BRAKE DRUMS

Homan Brake Drums give you more stopping power because they are precision machined to insure concentricity and an even braking surface. Made of chrome iron, an alloy which was originally developed for high-temperature use, Homan Drums dissipate heat quickly and minimize checking.

All the features of Homan Drum construction add up to longer brake lining life, longer drum life. Homan Drums are a sound investment in preventive maintenance.

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AND COMPANY, INC.
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ESTABLISHED 1847

For Fast Dependable Service Ship By Truck Trailer

See how FRUEHAUF TRAILER COMPANY of Canada, Ltd., uses USS COR-TEN steel to improve tank trailers!

"We are at present using COR-TEN steel in the construction of our semi-tank trailers, and have found it to be more than satisfactory," says Fruehauf Trailer Company of Canada.

The Engineering Department says, "We use this high strength steel for two main reasons. First, because of the reduction in weight that it makes possible—a most important feature in building tank trailers. And second, because of its low sulphur content. As is well known, a low sulphur content assists in eliminating porosity, helps to improve welds and therefore safeguards a tank from leakage at the seams.

"In the belly or bottom section of the tank we use a 10-gauge COR-TEN steel which must be able to withstand the strain of a load under various road conditions, and in the sides and roof of the tank we use a 12-gauge COR-TEN steel for reduction in weight."

TWO TANKERS built by Fruehauf Trailer Company of Canada, Ltd. The Rogers Fuel Oil Trailer has a capacity of 3200 gallons; the Trinidad Leaseholds Regent Trailer carries 5400 gallons.

And here's how you can get the benefits of USS COR-TEN steel in your equipment!

By building your tankers lighter with USS COR-TEN steel, you can obtain increased capacity without increasing loaded weight. The extra steel poundage required in ordinary construction can be traded for additional pounds of payload by building the tanker bigger without increasing weight. If preferred, however, you can maintain the capacity you would have in a unit built the ordinary way, and reduce both dead weight and loaded weight.

COR-TEN steel-built tankers also require less maintenance and last longer, because USS COR-TEN steel has a 50% higher yield point than carbon steel . . . gives 4 to 6 times the resistance to atmospheric corrosion . . . and offers higher resistance to load surge and road vibration.

For more information, write for a free copy of our new book on USS COR-TEN steel. It shows many examples of improved construction with this premier high strength steel.

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UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS COR-TEN High Strength STEEL

USS

UNITED STATES STEEL

Trailers on Flatcars

Continued from Page 152

Rail spokesmen were careful to state that while individual railroads or groups might favor certain types of TOFC service, they were not objecting to the other types.

Under the rules released by the ICC, each of the services listed above is permitted.

TOFC Services

Here are the existing and planned TOFC services as of the middle of August:

Available for use by motor common carriers: Chicago Great Western (Chicago-St. Paul ,Minn.); New York, New Haven & Hartford (New York-New Haven, Conn.—Springefild, Mass.—Providence, R. I.—Boston, Mass.); Missouri-Kansas-Texas Lines (Kansas City, Mo.—Oklahoma City, Okla.); Chicago & Eastern Illinois (Chicago-St. Louis. The New York Central has announced plans for a service restricted to motor common carriers serving Boston, Cleveland, Chicago, New York, and Detroit. The M-K-T service also handles trailers of its motor carrier subsidiary, the New Haven service is available to private carriers, and the Chicago & Eastern Illinois is reported to have recently launched TOFC handling of its own freight at rates competitive with those of motor carriers.

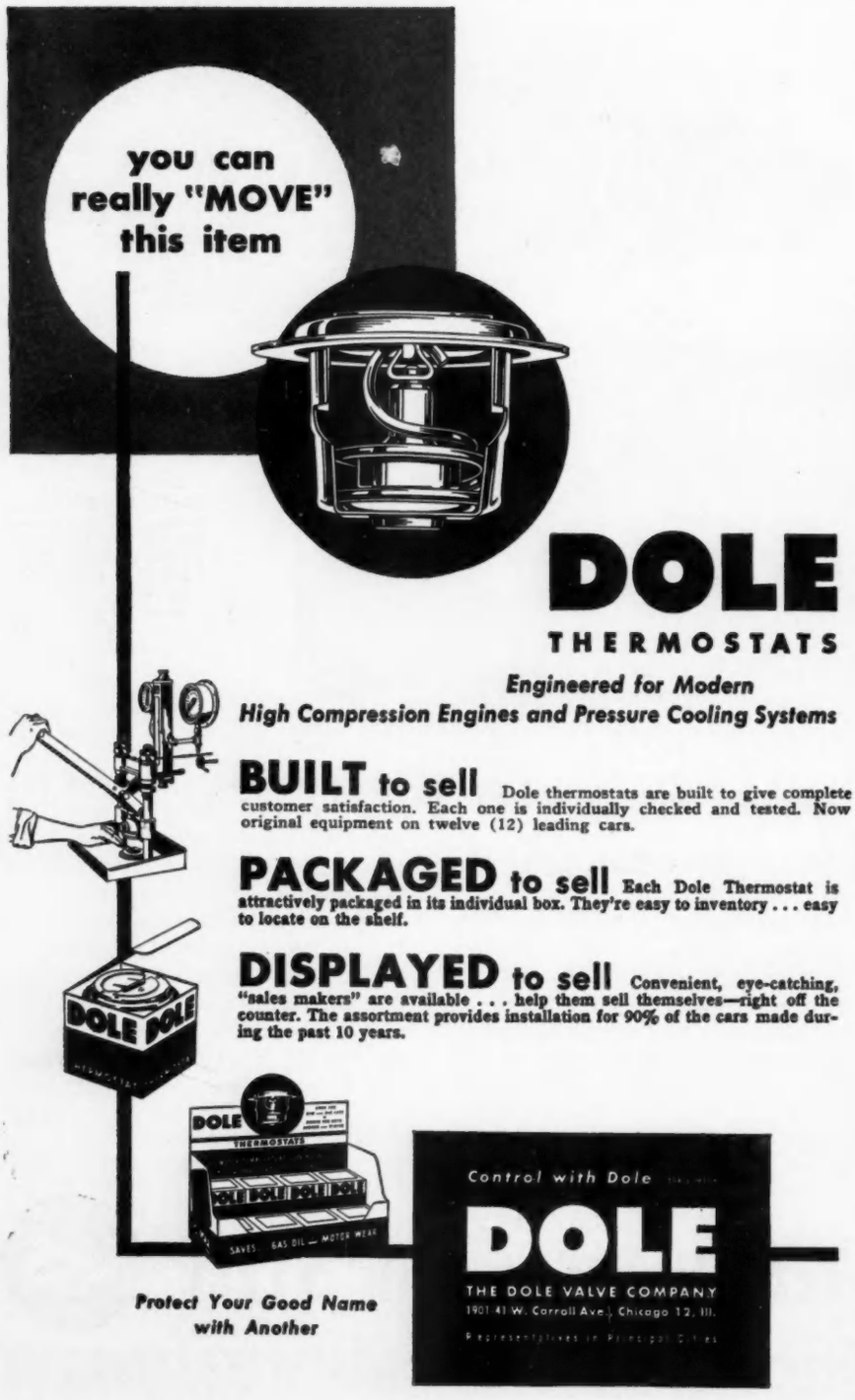
Competitive with motor carriers: Pennsylvania (New York—Jersey City, N. J.—Newark, N. J.—Harrison, N. J.—Philadelphia—Pittsburgh — Chicago); Baltimore & Ohio (Philadelphia—Baltimore, Md.—Pittsburgh—Chicago); Delaware, Lackawanna & Western (New York—Newark—Buffalo, N. Y. connecting at Buffalo with the Wabash and the New York, Chicago & St. Louis); Wabash (Chicago-St. Louis-Detroit, connecting at Buffalo with the DL&W); Erie (New York-Chicago); New York, Chicago & St. Louis (Chicago-Cleveland, connecting at Buffalo with the DL&W)

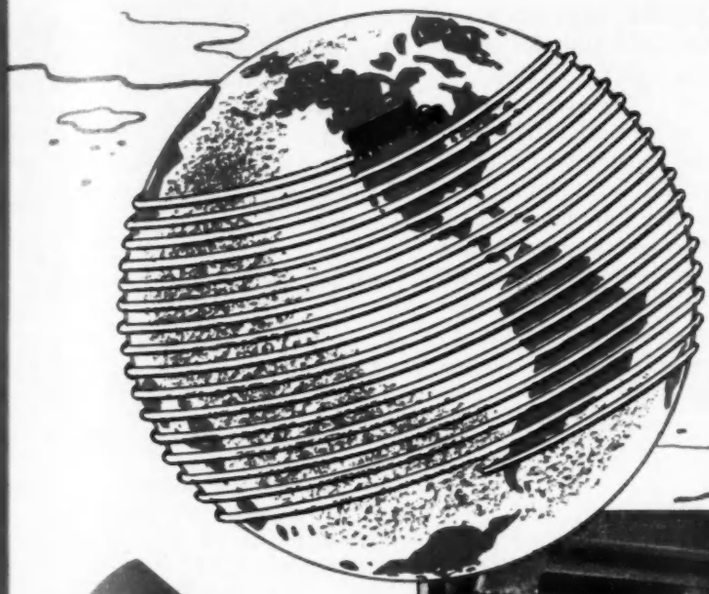
(Tariffs for the above services have been protested by motor carriers and are subject of the currently-suspended hearing before the ICC.)

Other TOFC services competing with motor carriers are: Chicago & Northwestern (Chicago-Milwaukee, Wisc.-Green Bay, Wisc.—Minneapolis & St. Paul, Minn.—Council Bluffs, Iowa—Omaha, Nebr.—Duluth-Superior — Waukegan, Ill.—Appleton, Wisc.); Union Pacific (Los Angeles—Las Vegas, Nev.—Salt Lake City, Utah—several points in southern Idaho, Nevada, eastern Oregon, western Wyoming) and the reported recently-launched Chicago & Eastern Illinois service. All except the C&EI have been protested by motor carriers.

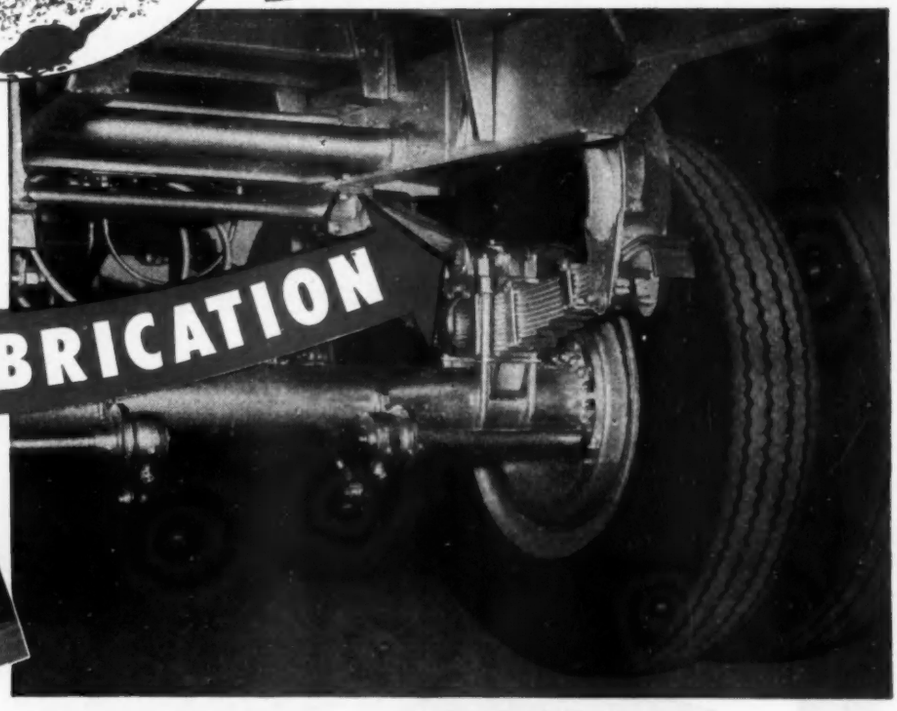
The Atchison, Topeka & Santa Fe, The Chicago, Burlington & Quincy, the Southern Pacific (San Francisco—Los Angeles—Phoenix, Ariz.) the SP's subsidiary the Texas & New Orleans (Dallas,

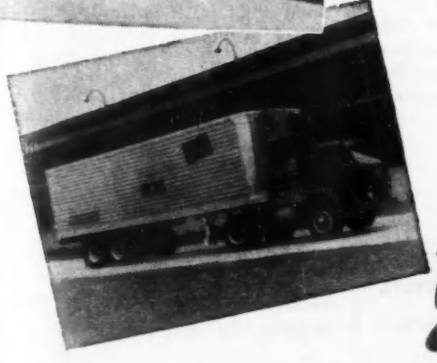
(TURN TO PAGE 156, PLEASE)


you can really "MOVE" this item
DOLE
THERMOSTATS
Engineered for Modern
High Compression Engines and Pressure Cooling Systems
BUILT to sell Dole thermostats are built to give complete customer satisfaction. Each one is individually checked and tested. Now original equipment on twelve (12) leading cars.
PACKAGED to sell Each Dole Thermostat is attractively packaged in its individual box. They're easy to inventory . . . easy to locate on the shelf.
DISPLAYED to sell Convenient, eye-catching, "sales makers" are available . . . help them sell themselves—right off the counter. The assortment provides installation for 90% of the cars made during the past 10 years.
DOLE DOLE
DOLE
THERMOSTATS
SAVES GAS OIL — MOTOR WEAR
Protect Your Good Name with Another
Control with Dole
DOLE
THE DOLE VALVE COMPANY
1901-41 W. Carroll Ave., Chicago 12, Ill.



Brown TANDEM AXLE ...16 TIMES *Around the World* AND STILL ROLLING STRONG





ONLY BROWN TRAILERS HAVE IT!

These balanced, finely engineered Brown Running-gears, with only two moving parts, are an ultimate of simplicity. They require NO LUBRICATION! Many of them have logged more than 400,000 trouble-free miles in hard service.

Brown's Running-gears assure smooth, safe, instant load equalization . . . give the most fragile cargo a soft ride, provide stable roadability and have permanent alignment.

Call in your Brown Distributor . . . Get the facts about this Brown Aluminum Trailer ***Maintenance Savings Feature*** and the ***Weight Specification Guarantee*** given at time of purchase.

Write: Dept. CJ-9 . . . Box 873 . . . Toledo 1, Ohio.

BROWN TRAILERS, *Inc.*

SPOKANE • TOLEDO • READING

Sales and Service in All Principal Cities

Brown aluminum trailers

Trailers on Flatcars

Continued from Page 154

Texas—Fort Worth, Texas—Houston, Texas—Lake Charles and other points in Louisiana) have been hauling trailers of their motor carrier subsidiaries, charging the shippers regular rail LCL rates. Last May the Great Northern (Minneapolis & St. Paul, Minn.—Duluth, Minn.—Superior, Wisc.—began a captive service using leased trailers and contract tractors at regular rail LCL rates.

The Monon (Chicago, Indianapolis & Louisville RR) will definitely haul its own or leased trailers, has not said what points will be served or what the date will be. The Reading expects to provide the service, will offer it "to shippers," presumably meaning that it will use its own trailers or those of its motor carrier subsidiary. The Lehigh Valley (New York—connecting at Buffalo with the Wabash) as yet has announced no date for the service to begin.

The Boston & Maine is studying the question, has made no announcement that it will offer the service.

End

Please Resume Reading Page 71

Truly years ahead in welder design

NEW MARQUETTE A.C. 90 SERIES WELDERS with "PERMA-SHIELD" construction

Marquette's newest "Instant Arc" welders, now offer "Perma-Shield" construction—the first use of non-conductive Fibre-Glass in welding cabinet design. This extra-strong, lightweight cabinet is so non-conductive that it completely solves problems of losses from "eddy currents" and hysteresis. The transformer's usable welding current output is increased to deliver maximum welding efficiency like never before! Only Marquette's "Perma-Shield" cabinets give you *all* these: cooler operation . . . no loss in usable transformer output . . . peak efficiency . . . noiseless operation . . . superior strength . . . and complete weather protection.

New Marquette 90 Series A.C. Welders combine all these features with "Instant Arc" striking for faster, easier welding! You take every job in stride from light gauge sheet metal to heaviest steel! Let your jobber show you how Marquette Welders give full UL standards of workmanship and materials *PLUS* a hefty boost in efficient performance!

MARQUETTE MANUFACTURING CO., INC.

DEPT. CJ, 307 EAST HENNEPIN AVE. • MINNEAPOLIS 14, MINNESOTA

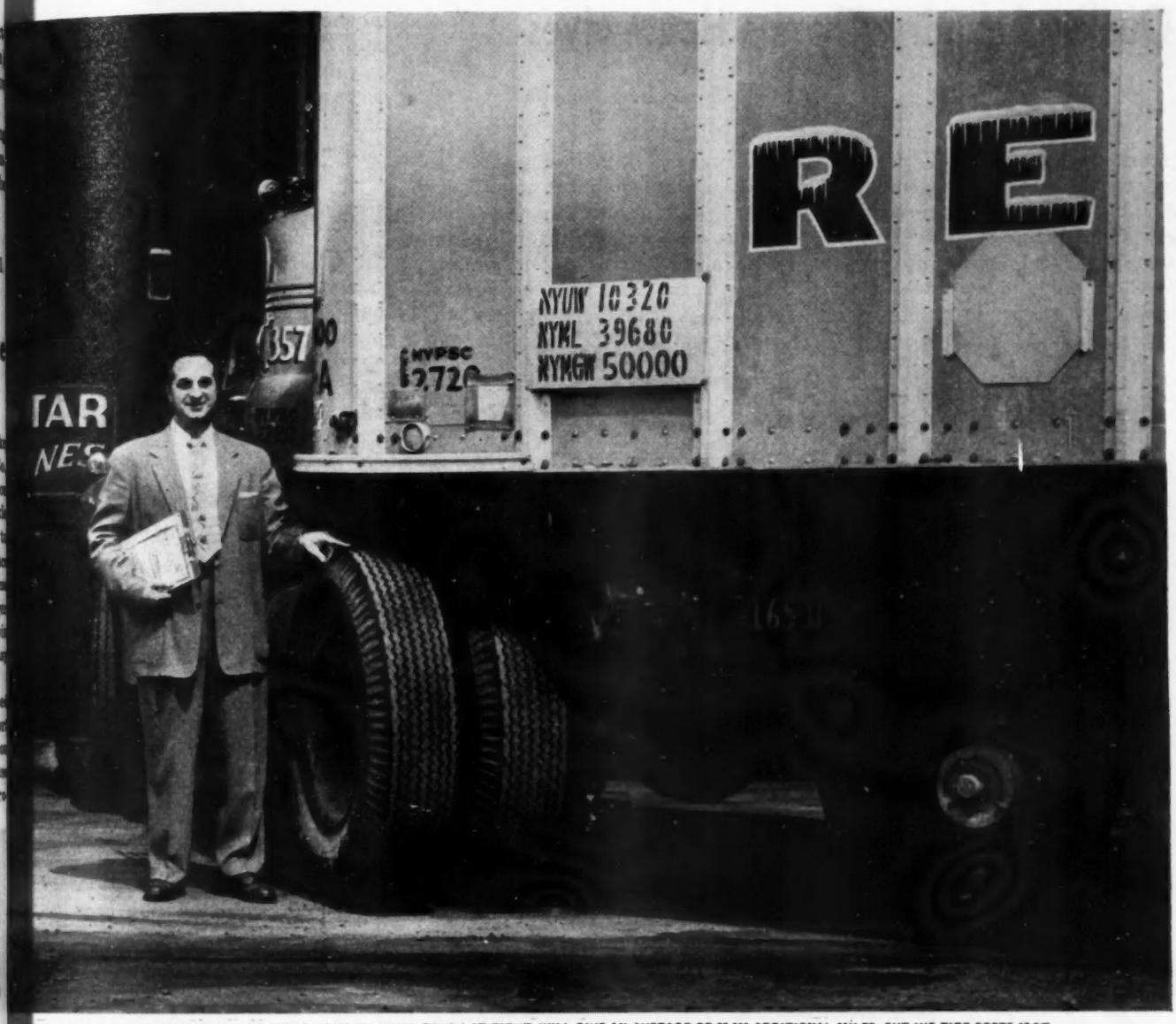
Self-Contained Air Brake Developed by Eaton

A NEW self-contained air brake developed by the Eaton Mfg. Co., Cleveland, Ohio, is now available on a number of the company's axle models. The new brake is said to provide a long list of performance advantages, most important of these being higher braking efficiency, longer lining life, freedom from anchor pin lubrication problems, quick and easy relining, and reduction in weight.

One feature of the self-contained design is a comparatively short chamber bracket mounted directly on the brake spider. It allows the use of a short rigid camshaft, thus providing a compact, close-coupled unit. This design is said to materially reduce bracket deflection and camshaft wind-up, consequently a shorter chamber stroke is required. The result is faster truck stops since greater braking effort is delivered to the drum for a given input.

Another design feature is the use of hardened semi-cylindrical brake shoe ends with both upper and lower shoes engaging a single anchor pin. At the cam end of each shoe, a trunnion-type roller and pin are used in a half-round yoke, with the roller free to rotate on the pin and the pin free to rotate in the shoe. This design makes for a quick-acting and quick-releasing mechanism.

The single pin at the anchor end of the shoes and the trunnion-type rollers and pins at the cam ends require no lubrication.



N. Y. HIS EXPERIENCE SHOWS THAT NYLON CORD TIRES (ON TRUCK AT RIGHT) WILL GIVE AN AVERAGE OF 33,000 ADDITIONAL MILES, CUT HIS TIRE COSTS 18.5%.

ROM NYLON CORD TRUCK TIRES

Pont technicians, in cooperation with leading tire manufac-, developed a cord that gives the best protection yet against ailure, as proved by actual road experience. Truckers report ires made with cord of Du Pont nylon give more mileage, recaps, fewer road delays, more mileage for the tire dollar. Here's why nylon gives the best performance. It has greater e strength, flex and abrasion resistance than any other fiber—which contribute to its ability to withstand road shock and damage. Nylon is not damaged by the moisture that seeps ire cuts. It withstands prolonged exposure to the heat develin tires. And nylon cord tires run cooler. Prove to yourself conomy of nylon cord tires. Ask your dealer about trying a day. (Du Pont makes nylon fibers, does not produce tires.)

DU PONT
REG. U. S. PAT. OFF.

R THINGS FOR BETTER LIVING ... *THROUGH CHEMISTRY*

MORE RECAPS. "We expect at least two recaps from nylon cords," says Louis Muha, New Jersey contractor. "Before nylon, we were lucky to get one recap. Nylon cords have the strength to take it on any job."

Quality Laundry Charms Housewives

Continued from Page 96

guarantee a good-looking fleet was to choose a color scheme for our fleet that would be distinctive and yet appealing. We believe we accomplished this by using as our background color on trucks a sort of yellow cream with light blue lettering and striping.

However, unless we wanted to paint about every six months or year we had to discover some means of protecting original paint jobs in all their first glory and yet make them last long enough to make appearance upkeep economically justified. This we accomplished beyond expectations by applying two coats of clear Duluxe varnish over our paint job as soon as it was finished and then renewing the clear every two years.

What has this application of clear meant to us and how expensive has it been?

Seven-Year Paint Job

By using clear as we do we have had trucks go 10 years without painting, with the average being about seven years. And, please note, during this period our fleet has always looked as if it was freshly painted. We job our painting out although we put the clear varnish on ourselves. When necessary, we change our own lettering and striping, using stencils specially cut for this purpose.

First, we thin our clear ten per cent with reducer and, when applying it, are not stingy. We were told three quarts would do a truck. For our job we found it took a gallon.

Spray Technique

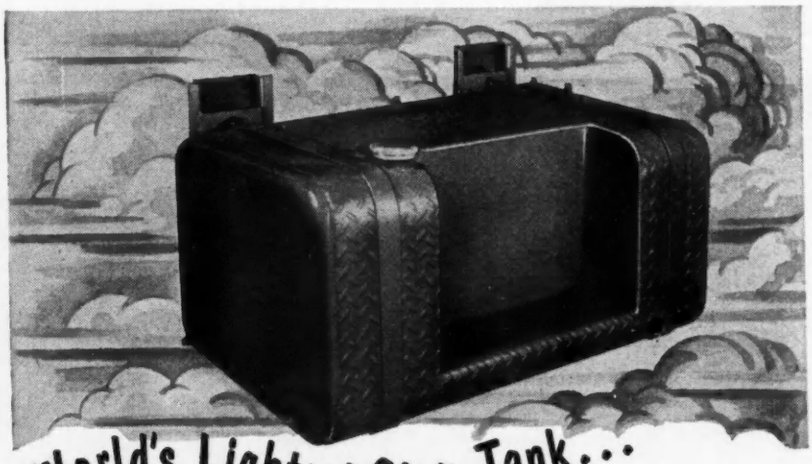
In spraying the clear we work fast, being careful not to put so much on that it runs. This takes a little practice but it can be done. Instead of applying one coat of clear over the entire truck and then going over the truck with a second coat we work only on a section of the truck at a time, applying the second coat before the first is dry. Should the weather be such that the first coat is slower drying than normally, then we will cover a larger area than normal at a time. But at no time do we do the entire truck body. We finish up the job as we go along.

In spraying we use a cross-hatching, or criss-cross motion both to insure thorough coverage as well as to help prevent running. We employ 60 lb of nozzle pressure, slightly more than normal. We usually do our painting summer and spring when the weather is more favorable for the air-drying of the job.

Letter Repair

We do our own repair of lettering or striping. We simply sand off the clear and the old lettering.

(TURN TO PAGE 162, PLEASE)



World's Lightest Step Tank...

by LINTERN

NOW — WITH *DETACHABLE BRACKET* FOR EASY MOUNTING

Always popular, even more so now, this new Lintern Step Tank with *detachable bracket* offers:

1. Installation by one man — lower costs.
2. Cushioning of tank completely against road shock and chassis torsion.
3. Right or left hand mounting.
4. Elimination of stress and strain on tank.

Of convenient step height, the Lintern is the *lightest* step tank available. By transferring 75% of tank and fuel weight to the front axle, it enables the operator to carry up to *850 lbs. more payload.* It meets the rigid I.C.C. requirements and periodic inspection by the Underwriters' Laboratories during manufacture. In 40, 50, 60 and 70-gallon capacities. Start saving by sending for complete information.

A complete line of Saddle and Cylinder Tanks and Air-operated and Vacuum-operated Traction Sanders. Send for information.

THE LINTERN CORPORATION
ROUTE 20, EAST • PAINESVILLE, OHIO

Keep your fleet on its feet

. . . with Genuine Ford Parts! They're made right to fit right, to last longer—they cut down-time and keep your Fords on the road longer.

Yes, fleet operators find standardizing on Genuine Ford Parts the most profitable way to keep their Fords out of the "shop" and "on the road."

And that makes sense. For Genuine Ford Parts are built to the *same* rigid specifications as the parts that were originally used in your Fords. This means they're made to fit "just right" . . . so costly installation time is cut down to a minimum.

Then, too, Genuine Ford Parts have to "prove" themselves before being approved for manufacture. The engineers who *built* your Fords *track-test* Ford replacement parts under gruelling conditions at Ford laboratories and proving grounds. That's why you can always count on Genuine Ford Parts being made to *last*.

Yes, profit-wise fleet owners insist on Genuine Ford Parts: the parts that are made right—to fit right—to last longer in Fords.

And, remember they're readily available to *you* and *your* fleet . . . through 6400 Ford dealers.

Keep your Fords all Ford

GENUINE Ford PARTS

Quality Laundry

Continued from Page 160

repaint these—using stencils—and then apply the clear as normal. Incidentally, the original paint job is enamel.

Scratches and rubs we treat as economically as possible. Rather than repaint an entire panel that has suffered a scratch, we wash it, clean it, sand the scratch down a little bit and then apply the paint by brush rather than by spray gun. By using a brush we hold the application within the bounds of the scratch to be covered. At times, closeup, this repair is noticeable but as long as the truck looks entirely presentable from the customer's house we are satisfied. After repainting, we always apply another coat of clear.

Fleet Protection

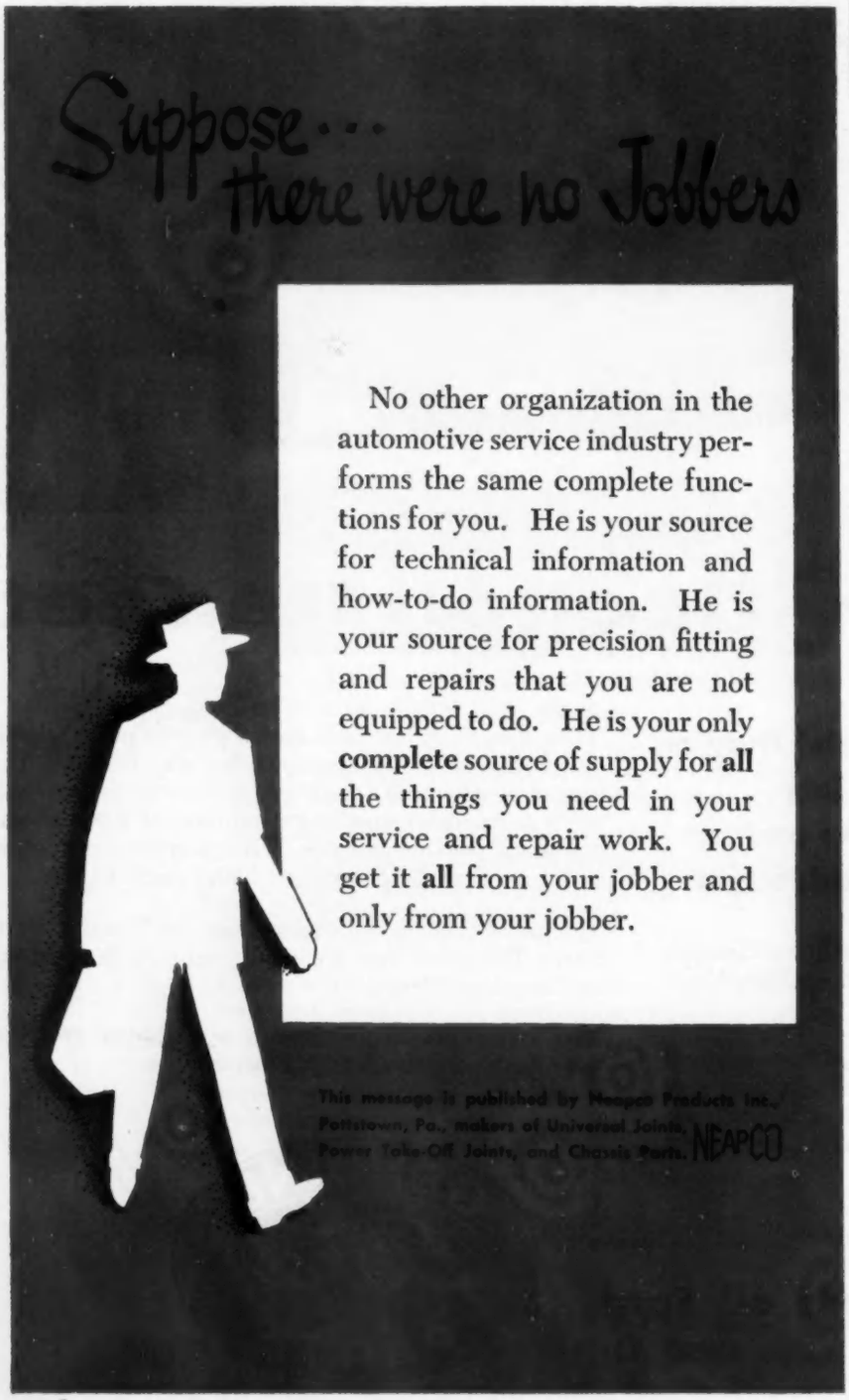
Other things than paint are necessary to keep a truck fleet looking good. For instance, frequent washings, and we must say that our clear varnish stands up well under washings where we employ only a mild soap and clear water.

But there is one other reason accounting for the efficacy of our application of clear as a preserver of our paint job over a long period of time and that is the fact that, winter and summer, our trucks are indoors when not working. We can't say how clear would act as a preservative for trucks parked outside in all types of weather. But we park fourteen of our trucks in our loading dock area and the balance in the garage itself. Given this kind of treatment the clear does an unusual and economical job of preservation.

In our garage we have taken pains to avoid bumps and abrasions to fenders when parking the truck at night by hanging old tires all along the walls of the parking area. The tires are suspended about two feet above floor level by wire attached to electrical conduit piping running around our walls. Just in case a driver does not stop soon enough, these old, castoff tires serve as resilient bumpers protecting both the vehicle and the garage wall.

END

Please Resume Reading Page 98


Suppose...
there were no Jobbers
No other organization in the automotive service industry performs the same complete functions for you. He is your source for technical information and how-to-do information. He is your source for precision fitting and repairs that you are not equipped to do. He is your only complete source of supply for all the things you need in your service and repair work. You get it all from your jobber and only from your jobber.
This message is published by Neapco Products Inc., Pottstown, Pa., makers of Universal Joints, Power Take-Off Joints, and Chassis Parts.
NEAPCO

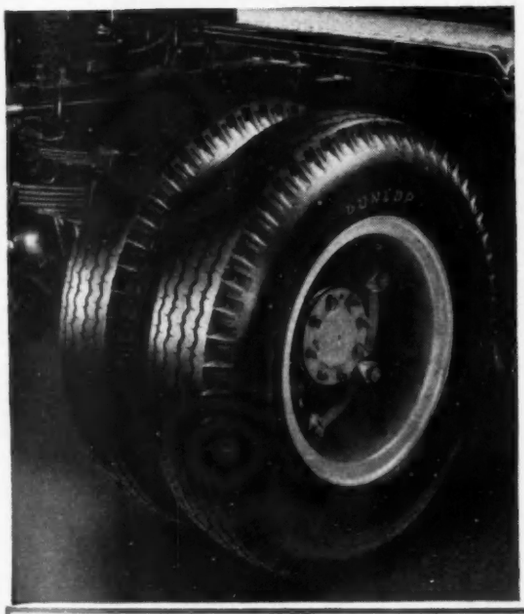
No Empty Return Trip

Here's the 2-in-1 installation recently put into operation by the Southwest Portland Cement Co., Victorville, Cal. A train of two trailers—each equipped with a cement hopper and fuel tank, and hauled by a Mack Model LTLT tractor—carry bulk cement from Victorville to Los Angeles, and on the return trip, carry fuel oil. Each trailer has the cement hopper built around the cylindrical fuel tank. The hopper holds 121 barrels of bulk cement, equalling a payload of approximately 22½ tons and the fuel oil tanks accommodate 5860 gal, or a corresponding payload of approximately 24½ tons.

*Super Cordura Cord... ...No Premium Price!

NEW DUNLOP HIGHWAY TRUCK TIRE

Gives Up To 34% Extra Mileage



...not just a new tread pattern or new carcass—BUT

A COMPLETELY NEW CONCEPT IN TIRE DESIGN

Here's an entirely new tire that is up-grading truck tire standards all over the country! It features *Super Cordura—the miracle cord that is 20% stronger, has increased resistance to moisture, offers maximum bruise resistance, presents no growth problems and virtually eliminates channel cracking.

Dunlop has engineered this new truck tire to anticipate loads—not be distorted by them. That means internal stresses are evenly distributed *and* evenly absorbed throughout the entire carcass. (See diagrams below). With these new truck tires you get extra long life on the original tread, 34% or more greater than that of other tires, *and* get the highest recap recovery as well.

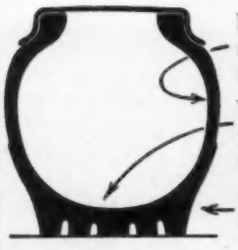
ORDINARY TIRE CROSS-SECTION IS ROUND BEFORE INFLATION, ASSUMES THIS SHAPE INFLATED

Here's where flex-fatigue begins.

Tread seldom level with the road, uneven load distribution results.

Badly distributed, localized stresses increase tire temperatures.

CROSS-SECTION OF DUNLOP TRUCK TIRE INFLATED



Better distribution of rubber means internal temperatures 10° or more lower.

Tread is absolutely level with the road, load distributed over much greater area.

Internal stresses are evenly distributed.

ROAD TESTED AND PROVED...

Gruelling road tests with extreme overloads produced no instance of bruise, ply separation, loose shoulders or other carcass failures. The new Dunlop Truck Tire's original tread outlasted the ordinary tire's original tread *and* the first recap. If you buy total ton-miles, you'll buy Dunlop "*SUPER CORDURA" Highway Truck Tires.

Mail Coupon Today!

*DUPONT TRADE MARK

DUNLOP TIRE AND RUBBER CORPORATION
Buffalo 7, New York

☐ Send me free literature, complete details. ☐ Have your representative call.
☐ Send me name of nearest Dunlop Dealer.

I operate_____vehicles of_____type.

Name _____

Company _____

Address _____

City *Zone* *State* C-9

Compression Pressure—Diesel Efficiency

Continued from Page 77

burned during each engine cycle. For efficient operation, sufficient air must be present to completely burn all the fuel supplied. The more air we can pack into a cylinder the more fuel we can supply, and therefore a greater amount of work can be obtained. We find then that compression pressure plays a very important role in the internal combustion engine not only in regard to its influence on efficiency, but also on the work which can be obtained from a cycle.

In case of the diesel engine there is a third reason for using a high compression pressure. The diesel cycle is based upon the fact that only air is compressed in the cylinder during the compression stroke and at the proper moment, a short time before top dead center, fuel is injected into the cylinder. During the compression stroke, the temperature of the air has been raised to something around 900 deg F., which is sufficiently high to ignite the fuel spontaneously as it enters the combustion chamber.

CLAW
TIRE CHAINS
...“traction insurance” specified by the biggest operators
The bigger the fleet the sharper the eye kept on road schedules and operating costs. Fleet operators with plenty of experience in buying and using tire chains tell us CLAWs not only keep their cars and trucks moving in “rough” weather, but they also stand up under the continual pavement-pounding.
For winter weather traction insurance at low cost per mile, equip all vehicles now with CLAW Tire Chains.

CLAW Tire Chains are made in all sizes to fit all automobiles, trucks and busses. Singles and duals. All feature the easy-on “finger pressure” Blue Boy fasteners.

COLUMBUS McKINNON
CHAIN CORPORATION
General Offices and Factories: TONAWANDA, NEW YORK
Plants at Angola, N. Y.; Dixon, Ill.; St. Catharines, Ont., Can.; Johannesburg, South Africa

Fuel Ignition

Fig. 2 shows the self-ignition temperatures of various grades of gasoline and diesel fuel. Note that gasolines have higher self-ignition temperatures than do diesel fuels. However, as mentioned before, a spark is used to ignite the gasoline charge. Present day gasoline engines are limited to compression ratios ranging from about 5 to 8 because of the tendency of the gasoline-air mixture to detonate at higher compression ratios. The diesel engine can operate at much higher compression ratios because of the injection method of progressively supplying fuel to the combustion process as the fuel is burned. Diesel engines are designed for compression ratios ranging from 12 to 18.

It is seen from Fig. 2 that the self-ignition temperature of good diesel fuel is slightly above 560 deg F. and of rough diesel fuel, about 650 deg F. It should be noted that the data for Fig. 2 were collected from a special test engine and are intended for relative comparison only. The condition of the fuel as it enters the cylinder, as well as the condition and design of each particular type of engine have a bearing on actual self-ignition temperatures. It should also be born in mind that ample margin of compression temperature in excess of the ignition point of the fuel will be required in order to guarantee ignition of the fuel in a diesel engine.

Pressure Relationship

Fig. 3 shows the relationship between pressure and temperature at the end of the compression stroke of a diesel engine. By comparing Figs. 2 and 3, it will be noted that diesel engines are designed to pro-

(TURN TO PAGE 166, PLEASE)

"Sludge problems completely licked"

following change to

SHELL ROTELLA OIL

. . . all gasoline and diesel units of the New England Transportation Company, Providence, R. I., are serviced with Shell Rotella Oil

SEVERAL YEARS AGO, this prominent carrier selected Shell Rotella Oil for use on their diesel tractors. Result: oxidation and sludge problems completely cleared, even though oil was changed only once in 5,000 miles. This outstanding performance prompted its use for the entire fleet, in both diesel and gasoline driven engines for trucks, tractors and buses.

Ever since its introduction Shell Rotella Oil has gained wider acceptance with fleet owners. Its ability to reduce engine parts wear . . . to keep engines clean and operating efficiently for longer periods . . . has meant less "down-time" and big savings in labor and engine parts.

SHELL

Send for the latest technical data on Shell Rotella Oil for fleet use.

SHELL OIL COMPANY

50 WEST 50TH STREET
NEW YORK 20, NEW YORK

100 BUSH STREET
SAN FRANCISCO 6, CALIFORNIA

The Better-Than-Ever Battery . . .
NOW STILL BETTER!

Exide
ULTRA START
with
Dual-Purpose LEVELEX*

. . . meets ALL driving needs in ANY climate!

Whether your operation involves stop-and-go driving, high mileage, or a combination of both, the new Exide ULTRA START® with the dual-purpose Levelex is by far your best battery buy.

FOR HIGH MILEAGE DRIVING—ULTRA START resists overcharge . . . gives longer life.

FOR STOP-AND-GO DRIVING—ULTRA START holds its charge better . . . stays "healthier".

***IN COLD WEATHER**—Levelex increases power to meet heavier starting loads and greater demands on the battery.

***IN HOT WEATHER**—Levelex increases protection against damaging effects of high under-hood temperatures.

For lower operating costs and more dependable service equip with Exide ULTRA START Batteries. All Exide Batteries are guaranteed—and remember, the Exide Guarantee is backed by 66 years of business integrity. Get the facts from the Exide distributor nearest you.

Exide AUTOMOTIVE DIVISION
THE ELECTRIC STORAGE BATTERY COMPANY
Philadelphia 2, Pa.
Exide Batteries of Canada, Limited, Toronto

Exide® BATTERIES

Diesel Compression

Continued from Page 164

vide a relatively substantial margin between the self-ignition temperature of the fuel used and the actually available temperature at the end of the compression stroke.

As already stated diesel engines have compression ratios ranging from 12 to 18, corresponding to compression pressures from 400 to 650 psi. The variation in compression pressure from one make diesel engine to another is not too important from the standpoint of the engine operator because it is a function of engine design. However, changes in compression pressure from the correct value are due to changing operating conditions and are extremely important because they may have a detrimental effect on the performance of the engine.

Compression Loss

There are numerous causes for loss of compression. The most common are worn or broken piston rings, leaky valves, scored and worn cylinder liners, leaky gaskets and dirty air cleaners. Another cause may be worn bearings which would increase piston end clearance and reduce the actual compression ratio. This latter cause would normally affect the compression pressure to a lesser extent than do the first five. For example, leakage due to defective piston rings may reduce compression as much as 70 psi below the pressure that would prevail with properly sealing rings.

Under the sponsorship of Bacharach Industrial Instrument Co. an independent research laboratory conducted extensive tests to determine the effect of various operating variables on compression. The test engine was a Caterpillar single cylinder engine, 5¾-in. bore and 8-in. stroke, rated at 20 hp at 1000 rpm. The engine was not firing during these tests, but was driven by a constant speed synchronous motor. Some of the results of these tests are discussed below.

Inlet Air Pressure

Compression pressure increases

(TURN TO PAGE 170, PLEASE)

what a relief!

Revolutionary New Spicer Center Bearing Mounting for Spicer Propeller Shafts

REDUCES VIBRATION UP TO 80%

LENGTHENS TRUCK AND PARTS LIFE

LESSENS DRIVING FATIGUE

Happy days ahead, for many drivers of 1955 trucks!

The new Spicer Center Bearing Mounting has put the shackles on destructive, annoying propeller shaft vibration ordinarily transmitted through center bearing supports!

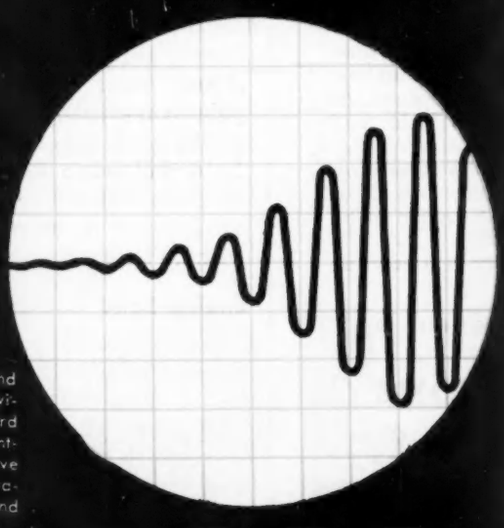
Gone is the propeller shaft hum . . . the buzz . . . the penetrating, nerve-wracking oscillations that weary the driver's body and wrack the truck's frame.

The Spicer Center Bearing Mounting embodies a revolutionary combination of ball bearing and low-frequency rubber. This achieves remarkably low vibration transmissibility at driving speeds. It dampens . . . deadens . . . absorbs nearly all the vibration disturbances transmitted to it from the drive line.

The new Spicer mounting is an outstanding engineering advancement. It is as momentous and far-reaching in effect as the now-famous soft-rubber engine mounting principle. One ride in a truck equipped with this Spicer unit will quickly prove its driver-saving, truck-saving ability.

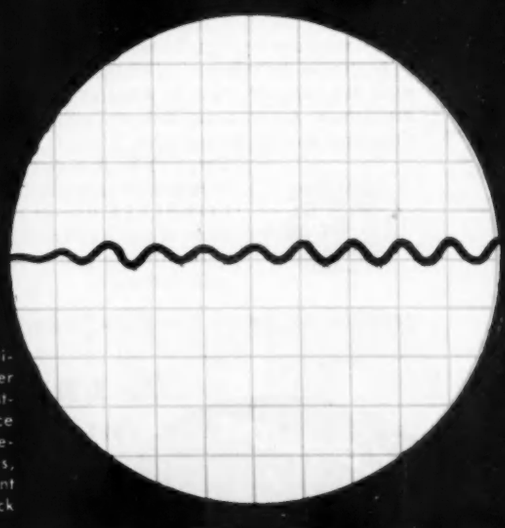
The new Spicer Center Bearing Mounting is available for original truck equipment, as an integral part of the Spicer Propeller Shaft assembly. It is another Spicer engineering "first," typical of Spicer pioneering that has been dedicated to the advancement of the automotive industry.

Oscillometer Recording of Standard Center Bearing Mounting



Extreme variation and high frequency of vibrations in standard center bearing mounting cause excessive and destructive vibration to both truck and driver.

Oscillometer Recording of New Spicer Center Bearing Mounting



Small modulus of vibration in new Spicer Center Bearing Mounting indicates absence of annoying, trouble-making frequencies, assuring more pleasant and profitable truck operation.

TOLEDO 1, OHIO

SPICER PRODUCTS: TRANSMISSIONS • UNIVERSAL JOINTS • PROPELLER SHAFTS • AXLES • TORQUE CONVERTERS • GEAR BOXES • POWER TAKE-OFFS • POWER TAKE-OFF JOINTS • RAIL CAR DRIVES • RAILWAY GENERATOR DRIVES • STAMPINGS • SPICER and AUBURN CLUTCHES

Diesel Compression

Continued from Page 166

as the inlet air pressure increases, for a given compression ratio. Fig. 4 shows this effect. Standard sea level pressure is indicated on the horizontal axis. An inlet air pressure lower than sea level pressure could represent either an increase in altitude at which the engine is located or a restriction in the intake system. The most common restriction one might expect to find is a dirty and clogged air filter. Pressures above standard sea level pressure indicate some form of supercharging. Barometric changes from day to day operation can affect the compression pressure considerably. It is not uncommon for the barometer to fall as low as 28 in. of mercury or to go as high as 31 in. of mercury.

This can mean a variation of compression pressure of about 70 psi from day to day operation with an engine otherwise in perfect condition. Any restrictions in the air filtering system would simply add to this variation.

Inlet Air Temperature

The effect of inlet air temperature on compression is not great, although compression pressure falls off approximately 25 psi for an increase in inlet air temperature of 100 deg F. Here again one might expect a season to season temperature variation of as much as 100 deg F. outside air temperature. Naturally, this would affect the inlet air temperature of any engine using outside air directly.

Cylinder Liner Wear

Compression pressure is seriously affected by such engine defects as leaky valves and gaskets, broken rings, and cylinder liner wear. Since the first three items cannot be evaluated, no test data can be readily obtained on these troubles. It is sufficient to say that any one of these faults may cause a substantial drop in compression pressure.

Cylinder liner wear, however, can to some extent be pinned down. Fig. 5 shows the effect of cylinder liner taper on compression pressure for the particular engine used for the tests. In this test the cylinder was purposely deformed to give a taper which began at a point ¾ of the piston stroke below the top of top ring travel and extended uniformly to the top of the cylinder. Actual taper was measured at a point corresponding to the top ring position at top of piston stroke. Note that when taper reached .05 in. compression pressure dropped to 483 psi, 35 lb below what it was with no taper.

Engine Load

Engine load has not been mentioned up to this point in regard to its effect on compression pressure. Since the diesel engine does not throttle the air in any way for load changes, it might be expected that load would have little influence on the compression pressure. This is not true, however, as evident from Fig. 6.

(TURN TO PAGE 172, PLEASE)

The time spent trying to break loose a corroded or "frozen" nut is unprofitable time.

It should be common practice to use only Lamson Brass manifold nuts that will not corrode, rust or seize at high temperatures. With this procedure, the repairman saves time, temper and muscle, the engine performs better and time and money are saved.

GET IT FROM YOUR JOBBER

Yet, this is just one example of the many ways to save on automotive maintenance. Brass nuts are only one of a COMPLETE line of fasteners used as original equipment by most truck, bus and automobile manufacturers.

It will pay you to specify LAMSON on your next order to your jobber.

SEND FOR THE LAMSON & SESSIONS AUTOMOTIVE CATALOG #53-A. THAT'S FREE, TOO!

The LAMSON & SESSIONS Co.

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ONE OF THE WORLD'S LARGEST MANUFACTURERS OF AUTOMOTIVE FASTENERS

FIRST IN ORIGINAL EQUIPMENT SERVICE
FIRST FOR REPLACEMENT, TOO!

It's Always Best to RECONDITION WITH THE "ENGINEER APPROVED" PISTON
ZOLLNER HEAVY DUTY
Used and Recommended by over 70% of all Truck and Bus Manufacturers

Experience counts — and the experience records of fleet owners, everywhere, prove "top engine performance and lower operating cost with Zollner Pistons." *Here's why!* Zollner Pistons are specifically tailored to individual engine requirements. Engine manufacturers work hand-in-hand with Zollner engineers in the development of each piston specification. For replacement as well as original equipment, Zollner is the "engineer approved" piston, expertly designed and precision-made. You are always safe and sure when you specify Zollner for every piston job.

ZOLLNER
HEAVY DUTY PISTONS

ZOLLNER MACHINE WORKS • FORT WAYNE, INDIANA

Diesel Compression

Continued from Page 170

Compression may increase by as much as 60 psi in changing from light load to full load conditions. Lower cylinder-wall temperatures at reduced loads result in smaller quantities of heat being picked up by air during the suction stroke. In addition, the residual gas temperatures are lower which would tend to hold down the charge temperature. During the compression stroke the colder walls would also encourage greater heat loss.

Engine RPM

Engine rpm has a pronounced effect on compression pressure, as evident from Fig. 7. The relationship between compression and rpm varies widely from different compression ratios and other design factors. It is for this reason that strict attention must be given to data furnished by the manufacturer (namely the compression pressure as well as the rpm at which the pressure should be checked). This table also shows the extreme importance of operating diesel engines within narrow speed range limits.

Compression Loss

Loss of compression will result in lack of power, uneven running, excessive vibration and a tendency to stall when idling. A low compression pressure may also cause sticking piston rings because the heat of compression is insufficient to completely burn the fuel. The unburnt portion will form hard or gummy deposits around the piston rings and impair free action. The rings may bind in the grooves and eventually lead to a seizing piston. Furthermore, these tarry deposits will settle on the piston and cylinder walls and promote excessive wear.

Starting the engine becomes more difficult when low compression pressures exist. If starting troubles occur, a careful inspection should be made at an early time.

Low compression also results in an increase in fuel oil and lubricating oil consumptions. Figs. 8 and 9 indicate the increase in fuel and lube oil consumption with loss in compression due to taper of the cylinder liner. Here again these graphs should not be interpreted too broadly since cylinder liner taper would indicate blow-by which is particularly hard on lube oil consumption. These curves should not imply similar increases in fuel and lube oil consumptions due to drop in compression pressure caused by inlet air pressures or temperature changes. They are significant, however, since they do to some extent represent the mechanical difficulties which affect compression pressure.

Pressure Testing

It is a good rule to maintain a continuous record of compression pressures. On automotive type diesel engines, recommended practice is to test compression at the time the fuel injection system is checked. This check should take place every 10,000 miles or 200 hours of operation.

END

Please Resume Reading Page 78

Armor-Flex
FLOOR MATS
for popular
TRUCKS

Keep the truck driver happy by replacing worn floor mats. And keep out drafts —dust and fumes by installing heavy duty Armor-Flex Mats. They cover the complete floor area for full protection. Easy to install form-fitting Armor-Flex mats have pre-punched holes for quick and accurate fit. Inspect floor mats in your fleet regularly. Keep several cartons of the popular numbers on hand for immediate installation.

SEE YOUR LOCAL JOBBER
Ask him about the complete line of Armor-Flex rubber automotive replacement parts.

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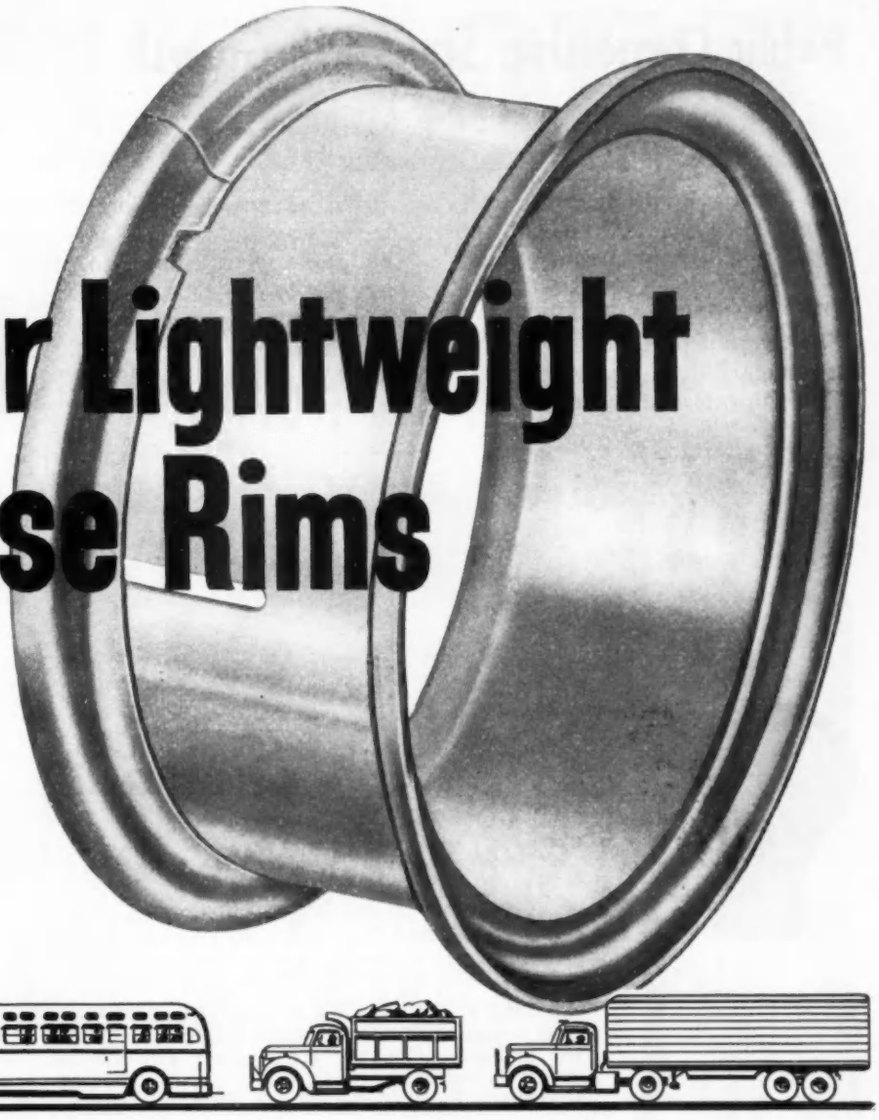
1761 LONDON RD. • CLEVELAND 12, OHIO

Goodyear Lightweight Wide Base Rims



Exclusive Goodyear Bond-a-Coat finish resists corrosion and discoloration, keeps its luster indefinitely.

Cost Less—Weigh Less · Worth More to You

GOODYEAR Wide Base Rims in most sizes weigh less than standard-size wide base rims. When you specify them, you can carry bigger loads—*as much as a hundred pounds extra pay-weight per trip.*

Yet, that's only one of their advantages. Their *initial cost is lower,* too.

In addition, they assure up to 30% greater tire mileage—a fact proved in all kinds of service. That's because these Goodyear Rims help to reduce sidewall flexing—resulting in less tire heat, fewer tire failures and fewer road delays.

Your nearest Goodyear Rim Supplier will show you how to profit by these savings. Or write: Goodyear, Metal Products Division, Akron 16, Ohio.

GOODYEAR

WIDE BASE RIMS

MORE TONS ARE CARRIED ON GOODYEAR RIMS THAN ON ANY OTHER KIND

Public Ownership Spurs PIE Growth

Continued from Page 85

PIE tonnage leaves or comes to its terminal in a throigh trailer. Three years ago this figure was negligible.

Direct Ownership of Equipment

PIE's transportation expense is low primarily because of the direct ownership of equipment. PIE includes as transportation expense driver wages, fuel and lubricating oils, lease rentals, operating rents, dry ice, bridge tolls, etc. But the cost of leasing power is not included, because PIE does not lease except in isolated instances.

Humphries points out that "when you lease equipment, the man to whom you pay the lease rental bears the cost of equipment and maintenance as a part of his costs, not yours and if you are using a unit leased with driver services he usually buys the fuel also.

"When you own your equipment outright, these costs are not concentrated in lease rentals which get into transportation costs, but are spread out among other proper costs."

The maintenance expense for PIE is increased by virtue of direct ownership of equipment. But this direct ownership also results in a better operating ratio because PIE does not "pay the equipment owner a profit . . . whatever profit exists goes to PIE instead."

Equipment Utilization

Utilization also is an important factor in PIE's remarkably low transportation expense and can be expressed in terms of average miles per year per power unit.

The same group of 1034 carriers previously mentioned, during 1952 with their own power ran 55,343 miles per year per unit; including leased power they ran 59,461 miles. PIE, on the other hand, with its own power, ran 157,383 miles per year per tractor.

There are several reasons for this striking disparity between PIE utilization and the average for the industry as of the year discussed. These reasons are:

1. PIE has a much longer average haul than the industry as a whole.

2. With a long average haul PIE has less terminal delay and its power is in motion a greater part of the time.

3. The territory over which PIE operates is more sparsely settled and less congested than the territory of the average carrier. PIE thus can maintain higher average road speeds, although PIE governs its line haul power speeds at 50 mph. This has a definite effect on safety and helps to keep accident costs down.

4. The major difference between PIE and other companies operating in the same area as PIE is that

(TURN TO PAGE 176, PLEASE)

PREFERRED
... for Simplicity and Accuracy ...

These KIMBLE Single-Solution Anti-Freeze Testers will make an instant hit with your men because they give the correct answers quickly and simply. Outstanding in every way, they are preferred because of—

SIMPLICITY — Testers are DIRECT-READING. The extra length, easy-to-read scale on the float and the big 10° graduations on the thermometer give you the correct answer fast.

ACCURACY — Made by the nation's foremost manufacturer of scientific glassware. Precision calibrated. Has big clear figures sealed under glass. Always stay clean and easy to read.

DURABILITY — Extra heavy fully annealed jar. Float is beaded to prevent sticking. Tip has non-roll, hex-shape base.

	Net Price to Fleet Owner
No. 548-TA for Ethylene Glycol such as "Prestone," "Zerex" etc.....	$2.25
No. 550-T for Alcohol.....	2.25
No. 553-T for Methanol such as "Zerone," "Trek" etc.....	2.25
No. 554-T for Propylene Glycol....	3.00

No. 556-TA Universal Anti-Freeze Tester tests all basic solutions of alcohol, methanol and ethylene glycol. Preferred for simplicity and accuracy. Net Price to Fleet Owner.....$5.50

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1209 W. Harrison St., Chicago 7, Ill.
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Manufactured by Kimble Glass Company subsidiary of Owens-Illinois

Ask for Bulletin 398

IMPERIAL

Brass Fittings • Flexible Fuel Lines • Shut-off Valves
Tube Working Tools • Barrel Faucets • Service Aids

ARMSTRONG TIRES ARE

71% MORE RECAPPABLE

– as proved by grueling road tests!

Yet you pay no more for

ARMSTRONG

Extra Quality

There's a reason *why* Armstrong Truck Tires give you extra wear, mileage, recappability! It's the 2-special insert plies in *addition* to a breaker strip that makes the difference!

This extra strength helps hold the carcass tight, halts tire growth – eliminates mileage-consuming "stretch." It protects the vital section under the tread from impact breaks, blisters, separation. By actual road test Armstrong tires are 71% more recappable.

ARMSTRONG

Rhino-Flex

TRUCK TIRES

WEST HAVEN, CONN. • NORWALK, CONN. • NATCHEZ, MISS.
DES MOINES, IOWA • SAN FRANCISCO, CALIF.

. . . Pie Growth

Continued from Page 174

PIE operates its power around the clock.

Power Around the Clock

"Around the clock operation involves some increased costs, of course. Service mechanics have to operate three shifts instead of concentrating their work on the day shift and wages are necessarily higher.

"But by spreading the work over three shifts," Humphries continued, "we have smoothed out the service operation so that less physical facilities are required. It's obvious that if you have to service three tractors in one shift, rather than one tractor per shift, you require three times as much garage space."

Many of PIE equipment costs are incurred on a time basis. Company officials are convinced that time is a major factor, despite the fact that most costs are being allocated, industry wise, on a mileage basis.

Painting, tire deterioration, taxes, license plates, personal property taxes, all are on a time rather than a mileage basis. The same is true of interest on the investment and, PIE believes, if a trucker can get more miles during a given period of time, he can substantially reduce his time costs as well as his costs per mile.

Efficient Equipment

One reason why PIE's operating ratio has improved so dramatically is that it is PIE policy to have the most efficient equipment "and we can get such equipment because we have the money.

"We try to get equipment that will give us the biggest possible legal pay load," Humphries declares. "As compared to 28 and 32-foot trailers, it must be obvious to all that the 35-footer would turn in a much bigger payload."

Humphries believes that "when you can buy equipment which saves a given amount of labor that has an hourly cost, you must recognize that the cost of the labor may increase due to inflationary and other factors.

"But when you buy such labor-saving equipment you have, in effect, signed a labor contract at a fixed wage figure for the life of the equipment, as related to the actual labor costs you have eliminated.

"Thus, if a machine costs $10,000 and saves $2,000 a year in labor, so long as the machine lasts it will save you those man-hour costs. But perhaps by the time the machine is six years old, the labor cost the machine saves may have gone up to $3,000 a year. But the machine cost has remained constant and you are just that much better off."

Safe Operation Ups Profits

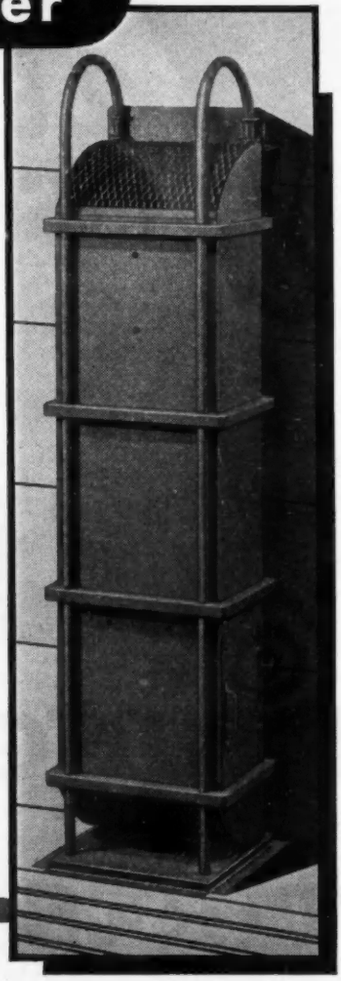
Safety is an additional factor in PIE's success financially. The company has for years been safety conscious and has recognized that accident costs help to tear down profits.

Its work in this field has produced some significant statistics which may well be studied with

(TURN TO PAGE 178, PLEASE)

The NEW HUNTER L P-Gas Cargo Heater

Light Weight
Compact
Easy to Install



Provides Greater Heating Capacity

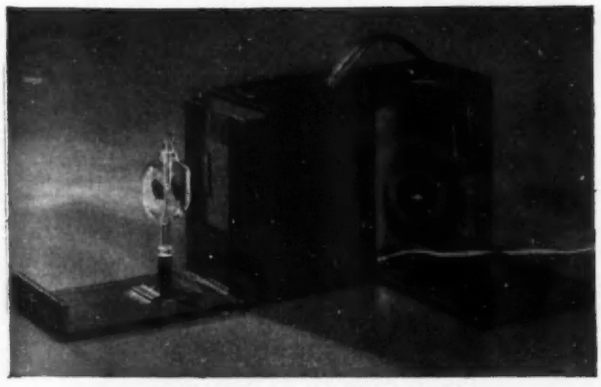
The Hunter LP-Gas Cargo Heater with an exclusive new jet type burner moves a constant flow of clean heated air to every corner of even the largest trailer, providing safe, sure protection for perishable cargo.

- Operates for 24 hours at top heat — at very low cost.
- Completely independent automatic operation.
- Accurate thermostatic control — no "hot spots" — no "cold spots."
- No moving parts — no maintenance problems.
- Safety pilot — meets all ICC safety regulations.
- Compact — takes up less cargo space — cargo can be placed within 4 inches of heater.
- Operates in coldest weather — on or off the road.

Completely self-contained portable units also available.

HUNTER MANUFACTURING CO. 1550 East 17th St., Cleveland 14, Ohio

Blinding Glare can be Brutal!



SEE THIS TEST RIGHT AT YOUR DESK

Prove to yourself the great difference between ordinary untinted windshields and E-Z-Eye. Ask for a Radiometer demonstration. Write: Dept. 5494, Libbey·Owens·Ford Glass Company, 608 Madison Ave., Toledo 3, Ohio.

Nagging, blinding glare of sun and sky brightness . . . eyestrain and fatigue . . . can be just plain dangerous.

Protect yourself and your drivers by making sure your trucks are equipped with windshields of glare-reducing E-Z-Eye Safety *Plate* Glass.

E-Z-Eye also reduces incoming solar radiation—filters out much of the sun heat that would pour right through regular glass—a great advantage in the summer.

Be sure you get E-Z-Eye. *Only* E-Z-Eye—made by Libbey·Owens·Ford—has the *shaded* windshield with the darker blue-green band at the top.

• LIBBEY • OWENS • FORD GLASS CO., TOLEDO 3, OHIO

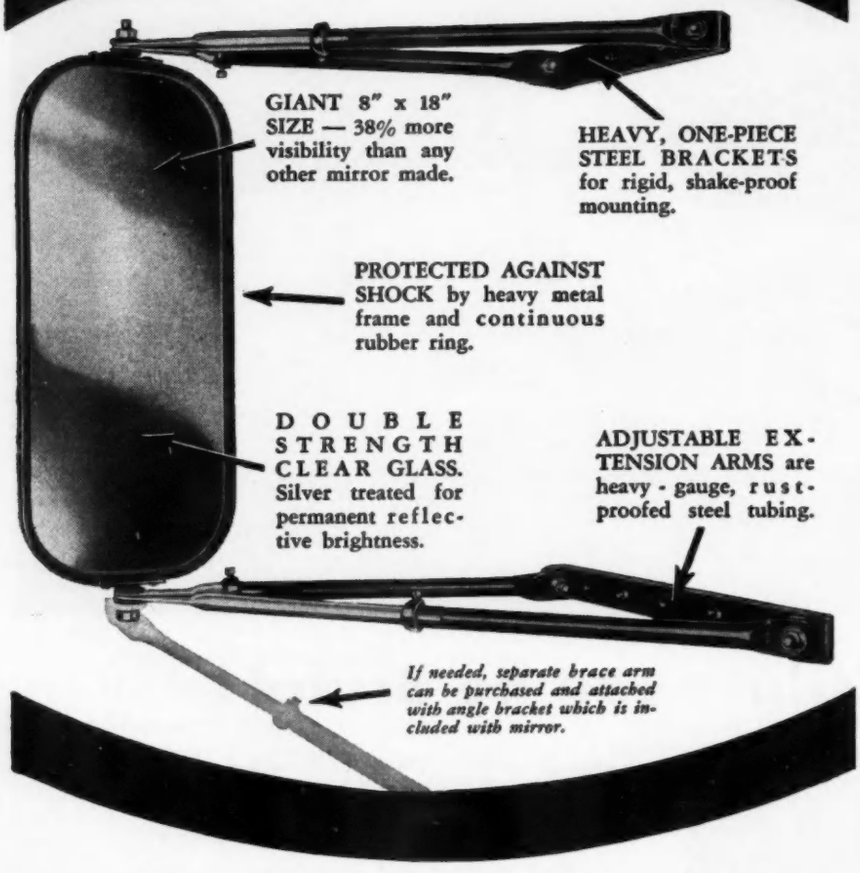
E-Z-EYE SAFETY PLATE

with the shaded windshield

Reduces Glare, Eyestrain, Sun Heat

E-Z-Eye SAFETY PLATE

here's the big new SPARTON TROJAN the truck mirror with all the features you asked for


GIANT 8" x 18" SIZE — 38% more visibility than any other mirror made.
HEAVY, ONE-PIECE STEEL BRACKETS for rigid, shake-proof mounting.
PROTECTED AGAINST SHOCK by heavy metal frame and continuous rubber ring.
DOUBLE STRENGTH CLEAR GLASS. Silver treated for permanent reflective brightness.
ADJUSTABLE EXTENSION ARMS are heavy - gauge, rust-proofed steel tubing.
If needed, separate brace arm can be purchased and attached with angle bracket which is included with mirror.

Surveys showed that long-haul truckers everywhere want the visibility, permanency, and mounting features Sparton now offers in its great new Trojan rear vision mirror. It's big enough to sight into instantly without robbing attention from the road ahead. It provides the most practical and rigid means of mounting yet. Taking the place of four conventional "feet" are two one-piece brackets, made of 3/16" x 1¼" cold rolled steel, that take abuse and won't break loose. Rubber ring and heavy steel frame protect the Grade A mirror's edges against impact and the entrance of moisture — allow for easy replacement of the glass if shattered by a frontal blow. Mirror's edges are carefully and specially sealed to resist peeling and deterioration. Bolts and nuts are cadmium plated; all other metal parts are bonderized and baked enamel finished.

The Trojan is available now at leading jobbers and dealers everywhere — ask to see it today, or write!

THERE'S A COMPLETE LINE OF NEW SPARTON HEAVY DUTY TRUCK MIRRORS

- *Adjustable and Extendible.
- *4" x 8" and 5" x 9" Rectangular styles.
- *6" Round
- Plain and Diminishing Types.
- *Replaceable Heads and Glass.

Sparton AUTOMOTIVE
Division of THE SPARKS-WITHINGTON COMPANY | JACKSON, MICHIGAN

. . . Pie Growth

Continued from Page 176

great care by trucking operators everywhere.

PIE separates or distinguishes between its actual safety expenses and its insurance expenses. Included in the category of actual safety expense are such items as the wages of the safety claims and OS&D departments, office costs of the safety division and safety awards made for accident free driving.

During 1951 PIE's actual safety costs amounted to .3934 per cent of a $20,050,446 gross revenue. The insurance expense that year was 2.8893 per cent of gross revenue.

Two years later, in 1953, the actual safety expense was .4264 per cent of a $22,352,492 gross revenue, while the insurance expense was 2.5868 per cent of that gross revenue.

It can be seen from these statistics that PIE's expenses for its safety department (including awards) as related to gross revenues increased 8.38 per cent in the two years from 1951 to 1953.

BUT the total of both the actual safety costs and the insurance expenses, as a percentage of gross revenue, DECREASED by 8.21 per cent!

Combining both the .3934 per cent actual safety costs during 1951 with the 2.8893 per cent insurance cost one arrives at an overall amount of 3.2827 per cent of total revenue (gross).

Combining the 1953 figures of 4264 per cent safety and 2.5868 per cent insurance one finds the over-all figure is 3.0132 per cent, or, as stated below, a decrease of 8.21 per cent. The insurance costs alone (this includes insurance premiums and self-insured losses) decreased by 10.47 per cent.

PIE's ability to cut costs is reflected even in its premiums for workmen's compensation! In 1951 this premium cost was .3851 per cent of gross revenue. In 1953 it had dropped to .2989 per cent. In 1950 it had been .6581 per cent.

END

Please Resume Reading Page 86

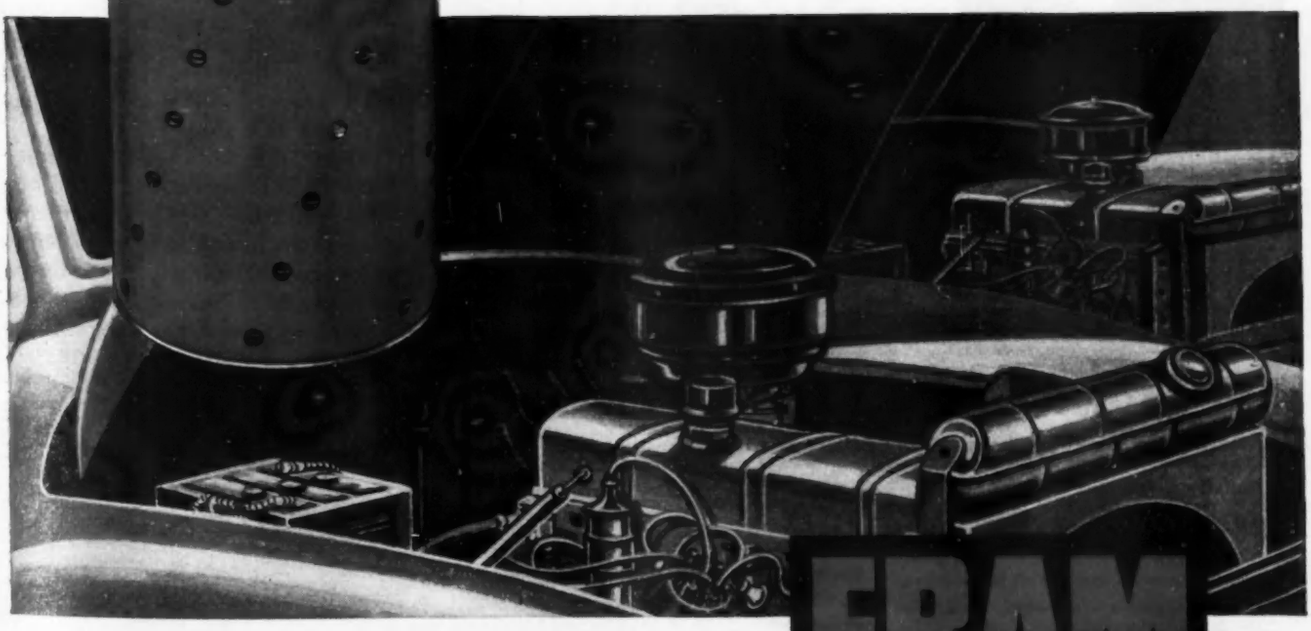
FRAM

cuts fleet costs 3 ways

1 FRAM Cartridges cut maintenance and repair costs —add extra mileage between engine overhauls!

2 FRAM Cartridges save you money because they last longer—give your engine *heavy-duty* protection.

3 FRAM gives you *complete* engine protection—oil, air, fuel and water filters guard your engines at every vital point.



To collect these long run savings for your fleet, see your FRAM Wholesaler today!

FRAM®
OIL • AIR • FUEL • WATER
FILTERS

FRAM CORPORATION, Providence 16, R. I. Fram Canada Ltd., Stratford, Ontario.

Transit Costs—"Dollars per Hour"

Continued from Page 73

time-consuming to follow. However, it can be shown that "costs per vehicle hour" do not vary appreciably over the range of service density. Thus there is no need to adjust costs per hour for service density. Furthermore, there is no concern as to where your property's service density is on the curve.

Each element of expense, as well as the total, is affected by "local factors" peculiar to each city. Within a single property, the same elements of expense are affected by "service (or local) factors" peculiar to each route.

LOCAL FACTORS:

1. Wage Rates
2. Scheduled Speed (Stops/Mile)
3. Annual Miles/Veh.
4. Size
5. Age
6. Type Vehicles
7. Power or Fuel Rate

These so called local factors are arranged in relative order of importance. You may disagree beyond two, but until we get the first two large variables (wages and speed) in understandable language—there's little point quibzling over the relative importance, of the last five items.

Operator's Wages

Curve 2 shows both schedule speed and the operator's cost that results in per cent plotted against stops/mile horizontally. You're probably familiar with the schedule speed curve. We plot against stops/mile because it is the largest factor influencing speeds realized. It is an inherent characteristic of the route to the extent that the amount of riders, length of blocks and traffic stops or delays, all determine total number of start/stops per mile of route.

Curve 2 is useful to denote speed variation between two properties, or between routes of the same property. The arbitrary par is struck at 8 stops per mile.

Regarding this second major local factor, scheduled speed (or stops per mile), which unit of cost varies less over the service density range? Obviously from Curve 2, there is no variation of operator's cost in cost per hour, whereas cost per mile varies +30, -15 per cent above and below par over the range.

Power and Fuel Costs

Note Curve 3. Fuel consumption per mile at the high density end of the curve is low, and high at the heavy density (high stops/mile) end of the curve. Cost per mile goes likewise. To the contrary, there is little variation over the full range of service density in fuel consumption per hour. Consumption per hour is "cost per hour". If your service density

(TURN TO PAGE 184, PLEASE)

NEW BOLSER

SUPER "KING SIZE" WEST COAST TYPE TRUCK MIRROR

MIRROR FULLY ADJUSTABLE TO ANY ANGLE
FORM FITTING BRACKET FITS ALL TYPE CAB DOORS
PRECISION GROUND & POLISHED ¼" PLATE GLASS
5 YEAR GUARANTEE AGAINST DISCOLORATION DUE TO ANY ATMOSPHERIC CONDITION
MIRROR ARMS FULLY ADJUSTABLE FORWARD & BACK
STURDY STRUT WITH OPTIONAL MOUNTING
LAYS BACK AGAINST CAB BY INSTANT REMOVAL OF 2 ADJUSTING PINS

"Bolser King-Size Mirror Is The Greatest Safety Development For Tractors & Trailers Since Air Brakes" . . . SAY OPERATORS

MAN, WHAT A MIRROR — IT HAS EVERYTHING! Large 6½" x 16½" mirror of precision ground and polished ¼" plate glass. Gives a big — full view at all times. Mirror is fully adjustable — all ways. Long "fit-all" mounting bracket gives mirror extra solid mounting even on lightest steel doors, cuts vibration to minimum. Frame of steel tubing. All brackets of heavy gauge stamped steel. Optional finish — baked aluminum or black enamel. DO IT YOURSELF — no skill required for mounting. Shipped complete, ready to assemble and mount.

Write for New Fully Illustrated Literature!

THE BOLSER CORPORATION • Cedar Falls, Iowa

Safety? Yes
Silence? Yes
Truck Muffler!

The release of this series of Heavy Duty Mufflers by The AP Parts Corporation is in accordance with the Truck Noise Reduction Program now being conducted by the American Trucking Association.

When we asked truck operators what muffler improvements they needed most, here's what they said:

1. Less back pressure 2. Longer life
3. Greater safety 4. Quieter operation

And that's what AP is giving you in the new AP Heavy Duty Truck Muffler! Now *for the first time* you can get the muffler you've always wanted.

You get *less back pressure* because of "offset-through" design and non-clogging extruded holes. You get *longer life* because of rugged, heavy steel construction (weight up to 42 lbs.). You get *safety* because of all-welded construction and precision fitted nipples which minimize carbon monoxide dangers. And last, but not least, you get *silence* because special resonating chambers dissipate noise.

Of course you'll want full information on these new mufflers and installation accessories. So call your AP wholesaler today or write us for free catalog.

Miracle Power Division
THE AP PARTS CORPORATION
1152 AP Building • Toledo 1, Ohio
Manufacturers of: MUFFLERS • PIPES • MIRACLE POWER • dgf 123

Fleet Training Courses

FLEET training courses have shown themselves an excellent source of trained personnel and a good way to keep up-to-date on latest techniques in fleet safety, maintenance and operation. For your convenience, here is a calendar of courses scheduled for 1954 together with the address to write to for further information. Unless otherwise noted, courses are full time day courses.

SEPTEMBER

13-17—Vehicle Maintenance Course—Director of Short Courses and Conferences, North Campus, University of Oklahoma, Norman, Okla. (Tentative.)

20-24—Fleet Supervisors Course—Institute of Public Safety, Pennsylvania State University, State College, Pa.

20-24—Fleet Supervisors Training Program — Public Safety Institute, Purdue University, Lafayette, Ind.

20-25—Vehicle Maintenance Course — Vocational Industrial Education Dept., University of Alabama, University, Ala. (Tentative.)

27-Oct. 1—Course for Trainers of Commercial Drivers —Community Service and Institutes Dept., University of Nebraska, Lincoln 8, Nebr.

27-Oct. 23—Truck Driver Training School — College Extension Division, North Carolina State College, Raleigh, N. C.

28-29—Fleet Supervisor Top Management Course—Institute of Public Safety, The Pennsylvania State University, State College, Pa.

28-30—Vehicle Maintenance Course—Engineering Extension Offices, University of Wisconsin, Madison 6, Wis.

OCTOBER

4-8—Vehicle Maintenance Course—Vocational Industrial Education, University of Alabama, University, Ala.

4-22—Administration and Techniques of Accident Investigation—Traffic Institute, Northwestern University, Evanston, Ill.

5- 6—Fleet Supervisor Two-Day Refresher Course—Institute of Public Safety, The Pennsylvania State University, State College, Pa.

11-15—Fleet Supervisors Course — Civil Engineering Dept., University of Michigan, Ann Arbor, Mich.

11-15—Vehicle Maintenance Course—College of Business Administration, The University of Tennessee, Knoxville, Tenn. (Tentative.)

25-29—Vehicle Maintenance Course—Traffic Management Institute, Northeastern University, Boston 15, Mass.

25-Nov. 20—Truck Driver Training School — College Extension Division, North Carolina State College, Raleigh, N. C.

Transit Costs

Continued from Page 180

corresponds to the arbitrary par of 8 stops per mile—another operator's experience can vary nearly ±20 per cent from yours if you talk in terms of "cents per mile", even at identical power rates. Should we use "cost/hour", the variation is only slightly more than ±5 per cent.

Most properties depreciate vehicles over a specific number of years life. Hence depreciation replacement expense is figured at a set number of dollars annually.

The costs per mile increases sharply as annual miles per vehicle decrease in accord with the dotted line of Curve 4. This range 40 to 24,000 annual miles per vehicle covers only the spread between individual property averages over the U. S. The spread is greater between fleets of a given property—from 60,000 to as little as 10,000 annual miles per vehicle. In Curve 4, the order of horizontal units is deliberately reversed to keep the heavy density — low speed—high stop per miles service at the right hand of the curve.

Depreciation and tax cost per productive vehicle hour would vary the same as cost per mile, except schedule speeds are lower at the heavy service density end of the curve corresponds to low annual miles per vehicle. This may be more readily seen if you consider that the vehicle hours per 1000 miles are greater at the heavy service density end of the curve. Hence cost per hour is lower in relation to cost per mile.

The specific variation shown in cost per mile and cost per hour holds true between properties. But, the relationship is similar between fleets of a single property. Hence, for all expenses of a relatively fixed nature there is less variation in cost per hour over the service density range.

Supervision, vehicle painting, cleaning, fueling, janitor service, facilities repair and many general items are of a relatively fixed nature. The costs on a per mile basis, depend strictly on annual miles per vehicle. These fixed costs, accounting for ¼ of all maintenance, are treated exactly as you would depreciation and interest.

Now, how about those items that cost us somewhat in proportion to the amount of vehicle use —the engine for example?

The Memphis tests, Curve 5, made under controlled conditions, show that revolutions per mile increase sharply as stops per mile increase (high service density—low schedule speeds). This was a diesel torque-converter motor bus. At high stops per mile, the engine runs at high speed a greater per cent of the time before the shift-back to low speed in direct drive. Revolutions per hour, hence costs per hour, vary less.

For these reasons, the integrated total of all maintenance shown on Curve 6 is better expressed in cost per vehicle hour tending to eliminate the service density variation.

END

Please Resume Reading Page 74

BOS Hydraulic TRUCK TIRE DEMOUNTER

Now, the new super model offers a quick and easy way to remove stuck or frozen casings and lock rings. The BOS hydraulic truck tire remover handles all sizes of truck tires — 15" to 24". Portable — used in shop or field • Avoids injury to operator, rim and tire. Precision built, compact and easy to handle • Features Hein-Werner hydraulic unit.

A. Attach BOS demounter. B. Raise demounter vertically and pump. C. Generally four applications will free rim.

THE THREE STAR SAFETY FLATER

The Three Star Safety Flater is an amazingly simple device for positively protecting the operator, (when inflating truck tire) against the danger of blown lock rings. It is exceptionally easy to operate and may be adjusted to handle different sizes of wheels and rims.

The Three Star Safety Flater will protect your men and enable you to meet insurance underwriters specifications for safety.

The Three Star Safety Flater can be used anywhere in the shop as it is light and portable or it can be carried in a service truck for road calls.

MAIL ORDERS OR REQUESTS FOR FURTHER DETAILS TO

JACK P. HENNESSY SALES CO.

12 Depot Square Englewood, N.J.

not 5,000,000, not 6,000,000, not 7,000,000, but

8,000,000

Successful Installations

Perfect Circle Nurlizing

gives you these 4 benefits!

- ✶ **Eliminates piston slap**
- ✶ **Gives closer piston fit without scuffing or scoring**
- ✶ **Assures adequate piston lubrication**
- ✶ **Reduces engine overhaul costs**

Perfect Circle Nurlizing has been proved in *over eight million* installations. Nurlizing is fast, accurate, economical, *permanent*...makes worn pistons like new again, at only a fraction of the cost of replacing them! It is the original method of resizing worn pistons by knurling, and although it has been often imitated, it has never been equaled. Insure every engine overhaul with genuine Perfect Circle Nurlizing. Perfect Circle Corporation, Hagerstown, Indiana; The Perfect Circle Co., Ltd., Toronto, Ontario.

Beware of imitations...insist on the original

Perfect Circle Nurlizing

September News Roundup

1954 Domestic Truck Factory Sales by G.V.W.*

	5,000 lb. and less	5,001-10,000	10,001-14,000	14,001-16,000	16,001-19,500	19,501-26,000	Over 26,000	Total
January	41,010	15,131	3,323	14,126	2,880	4,128	2,965	83,[illegible]
February	34,000	13,585	2,817	11,805	2,771	4,731	2,759	72,[illegible]
March	39,232	16,433	3,343	14,774	3,257	4,807	3,308	85,[illegible]
April	35,845	15,236	3,268	14,390	2,960	4,723	2,997	79,[illegible]
May	33,863	14,298	2,808	12,845	2,874	4,083	2,941	73,[illegible]
June	35,744	13,283	2,852	13,278	3,003	3,340	2,754	74,[illegible]
Total—6 Mos. 1954	219,694	87,966	18,431	81,218	17,745	25,812	17,724	488,[illegible]
Total—6 Mos. 1953	260,654	106,427	21,726	79,232	23,365	48,327	23,696	569,[illegible]

*—Automobile Manufacturers Association.

Truck Meetings

National meetings of importance to fleetmen in the near future—in addition to the three big ones outlined at right, below—include ATA's Local Cartage National Conference and National Safety Council's National Safety Congress and Exposition.

The local cartage and heavy hauler group meets Sept. 29-Oct. 2 at Hotel Warwick, Philadelphia. On the program are discussions of "piggy-back," leasing, new business, equipment planning, rail rates, operation costs. Heavy haulers will hear about released rates, interchange, return loads, insurance and terminal charges.

Safety Congress will meet Oct. 18-22, in Chicago. Industrial safety session are scheduled for the Conrad Hilton, Congress, Morrison and La Salle hotels; traffic safety will be discussed at the Congress hotel; commercial vehicle and transit safety meetings will be held in the La Salle hotel.

1954 Truck Trailer Shipments

	June	Six Months
Vans:		
Insulated and refrigerated:		
Steel	98	346
Aluminum	306	1,334
Furniture:		
Steel, Aluminum	91	706
All other closed-top vans:		
Steel	589	2,982
Aluminum	828	4,244
Open-top:		
Steel	116	477
Aluminum	66	438
Total—Vans	2,094	10,527
Tanks:		
Petroleum	519	2,624
All other	61	407
Total—Tanks	580	3,031
Pole, Pipe and Logging:		
Single Axle	44	323
Tandem Axle	72	391
Total	116	714
Platforms:		
Racks, livestock and stake	62	338
Grain bodies	77	311
Platforms (flats), all types	394	2,405
Total—Platform	533	3,054
Low-bed heavy haulers	204	2,156
Dump trailers	104	494
All other trailers	1,192	6,636
Total—Complete Trailers	4,823	26,612
Chassis only	271	1,251
Total—Trailers and Chassis	5,094	27,863

Save Tax Money

A recent Internal Revenue ruling reminds motor carriers that a fee paid for service of collecting COD charges is not subject to the federal transportation tax when it is shown separately from the freight charge on the carrier's billing.

Driver Selection Forms

White Motor Co. has announced preparation of a series of forms designed to aid fleetmen in selection of drivers. Included in the available forms are (1) application for city delivery, over-the-road and long distance drivers, (2) telephone check form for reference to previous employers, (3) driver interview check list, (4) traffic and driving knowledge test, (5) road test check list and (6) physical examination form. They were devised by Amos E. Neyhart, administrative head of the Institute of Public Safety, Pennsylvania State University.

Safety Brake System

A new tractor-trailer emergency air brake system was demonstrated last month in Pittsburgh, Pa. In tests, witnesses saw a 44,810-lb GVW tractor semi-trailer with a payload of about 27,000 lb brought to a complete

(TURN TO PAGE 218, PLEASE)

Fleet Operators' Meetings

Coming-up late this month and next are the American Transit Assn. Annual Meeting, the Society of Automotive Engineers National Transportation Meeting and the American Trucking Assns. Annual Convention. Here is a condensed schedule of events, as presently announced, of interest to fleetmen at these three big truck and bus meetings.

American Transit Assn., Sept. 27-30, Pittsburgh, Pa.

Monday, Sept. 27. Panel Discussion, "A New Look at Maintenance," including, "Tailoring the Maintenance Dept.," "How to Save on Maintenance," and "'Clinical' Inspection Methods." Open discussion on "Keeping Up Appearances" and a report from the Committee on Supporting Yardsticks (Transit Pars).

Wednesday, Sept. 29. Panel Discussion, "The Essentials of Proper Selection, Training and Supervision of Maintenance Dept. Employees." Open discussion, "Pinwheels or Pistons?," comparing gas turbine and piston engines.

SAE National Transportation Meeting, Oct. 18-20, Boston, Mass.

Monday, Oct. 18. "Weighing Vehicles Static and in Motion by Electronic Scales," and "Two-level Intercity Coaches."

Tuesday, Oct. 19. "New Research Facilities for Truck Design and Development—Better Trucks Through Research and Testing," and "Open Parking Lots or Shell-Type Buildings vs. Heated Garages for Vehicle Storage."

Wednesday, Oct. 20. "What the Nickel Cadmium Battery Can Do for Fleet Operators," and "Better Load Distribution for More Payload."

American Trucking Assns., Oct. 25-29, New York City

Sunday, Oct. 24, 3-4:30 p.m. ATA Executive Committee meeting.

Monday, Oct. 25. ATA conference meetings.

Tuesday, Oct. 26. ATA conference meetings and meetings of the subdivisions of the ATA Executive Committee.

Wednesday, Oct. 27. ATA Executive Committee meeting.

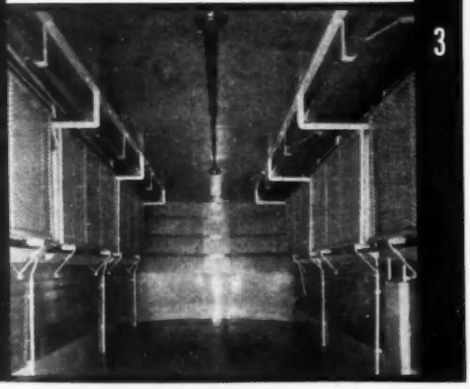
Thursday, Oct. 28. ATA Board of Directors meeting.

Friday, Oct. 29. ATA Board of Directors meeting, and meeting of the new ATA Executive Committee.

1

a KOLD-HOLD® engineered answer gives you the best (for you) of 6 different TRUCK REFRIGERATION systems

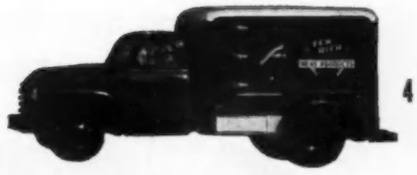
2



3

Now, you can eliminate the guesswork in picking a truck refrigeration system that is best for your particular requirements. Kold-Hold engineers, with 6 different systems to choose from can provide equipment that will give you the exact temperatures you want as long as you want them. They will tailor a system to your needs using a variety of highside and lowside units. These include such highsides as the Kold-Trux "Mobilmatic" Unit, a mounted compressor, or make-and-break assemblies, coupled to such lowsides as Kold-Hold "Hold-Over" Plates, Thin Plates, Serpentine Quick-Action Plates or Blowers.

Send the details of your problems to Kold-Hold Today.



4

yours for the asking

Kold-Hold Engineers will be happy to analyze your refrigeration problems and make recommendations without obligating you in any way. Simply check the form below and attach it to your letterhead.

Please check your business classification:

☐ Meat ☐ Milk ☐ Ice Cream ☐ Frozen Food

☐ Wholesale ☐ Retail ☐ Over-the-Road

Which do you prefer?

☐ Mobilmatic ☐ Hold-Over

1 **ESKIMO PIE** semi-trailer is refrigerated to below freezing temperatures automatically through use of a Kold-Trux "Mobilmatic" Unit. Temperatures are thermostatically controlled.

2 **FRANKENMUTH** Refrigerated Draft Beer Truck of the Hollander Beverage Co. is equipped with a mounted compressor and four Kold-Hold "Hold-Over" Plates. Truck temperature of 38° does not vary over 4° a day. Body by Ovens Body Co.

3 **SAM HARRIS PACKING CO.** finds use of Kold-Hold "Hold-Over" Plates in their fleet of trucks has cut shrinkage and spoilage to a minimum. They have standardized 100% on Kold-Hold Plates and Giffel Bodies.

4 **PETER ECKRICH & SONS, INC.** use Kold-Hold "Hold-Over" Plates in 168 route delivery trucks. In over 12 years of using these plates, they have yet to replace their first plate.

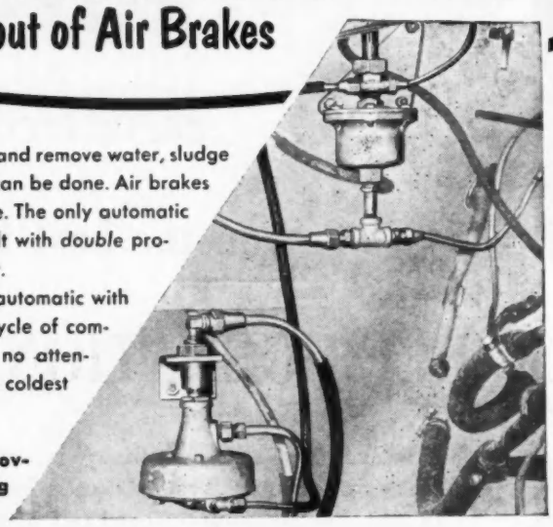
Look to Kold-Hold for the latest developments in Truck Refrigeration

See us at the Truck Body Assoc. Exhibit, Booths 10 & 11

KOLD-HOLD division

TRANTER MANUFACTURING, inc., 620 E. Hazel St., Lansing 4, Michigan

USE WILKERSON TANK DRAIN
Keep Water out of Air Brakes



Wilkerson units trap and remove water, sludge and rust before damage can be done. Air brakes stay safe and trouble free. The only automatic units for this purpose built with *double* protection against loss of air.

Discharge action is automatic with each complete running cycle of compressor motor. Requires no attention, cannot freeze in the coldest weather.

Filter complete with governor and the mounting bracket.

WRITE FOR LITERATURE AND DEMONSTRATION

WILKERSON
Automatic Air Products

Wilkerson Automatic Air Products
Tank Drains, Air-Line Separators, Sump Drains—Automatic and Manual Units for High- or Low-Pressure Systems.

WILKERSON CORPORATION
1661 West Girard Englewood, Colo.

SALES AND SERVICE THROUGHOUT THE U.S.A.

Spray On...Let Soak...Rinse Off
For Low-Cost, Speedy, Thorough Grease-Chasing!

On Engines and Chassis...

On Very Dirty Truck and Bus Bodies...

On Stubborn Oily, Greasy Concrete Floors...

On Engine Parts...

Get rid of oily, greasy dirt *anywhere* in your shop — quickly, safely and economically.

Spray on the Magnusol mix — one part Magnusol concentrate to eight parts kerosene or safety solvent. Let soak. Then pressure-rinse with water.

Harmless to skin and metals. Non-toxic. Non-flammable. *Thorough* cleaning action.

Write for the Magnusol Bulletin to see how you can save time and labor on these grease-chasing jobs in your shop.

magnus

MAGNUS CHEMICAL CO., INC.
38 South Ave., Garwood, N. J.
In Canada: Magnus Chemicals, Ltd., Montreal
Service Representatives in Principal Cities

September News Roundup

Continued from Page 186

stop with wheels locked on a 6 per cent downgrade after the trailer air hoses had been disconnected and the air completely released from the regular service brake system.

The emergency system consists of an additional air tank maintained under pressure from the regular air brake system through a check valve. There also are two air brake chambers parallel to and below the regular service brake diaphragms and connected to the slack adjusters through slip clevises so that when service brakes normally are applied the diaphragms of the emergency system do not move.

The emergency system is activated by an electric circuit. A push button on the cab dashboard enables the driver to energize a solenoid, thus opening an air valve feeding air from the emergency tank into the emergency brake chambers. The emergency system can be used in event of air pressure failure of the regular brake system or as a booster to the regular system.

Chevrolet 4-Wheel Drive

A new model 4-wheel drive conversion for ¾ and 1 ton Chevrolet trucks is now in production by the NAPCO Products Division, Northwestern Auto Parts Co., Minneapolis, Minn. Earlier this year, the company began production of units for 1½ and 2 ton Chevrolets (April, page 305).

State Regulations

Kansas-Minnesota: The two states have entered into a reciprocal retailiatory tax agreement. ICC fixed route common carriers will not have to pay registration fees in the state of nonresidence, but Minnesota carriers will pay—for operation in Kansas—that state's gross ton-mile tax, and Kansas carriers—in addition to their own state's tax—will pay in Minnesota a tax equal to that assessed Minnesota operators for Kansas operation. This has been set at 1¢ per mile for single unit trucks and 2¢ per mile for combinations regardless of weight.

New Jersey: The state's "Hours of Duty of Operators" law is in effect after being inoperative since 1937. It limits commercial vehicle drivers to no more than 12 consecutive hours on duty or to no more than 12 hours total in any 16 consecutive hours,

(TURN TO PAGE 220, PLEASE)

carries MORE MAIL FASTER WITH FAGEOL VANS

Van interior has more payload area than any other truck of the same over-all length.

Robert K. Blackburn, contract mail hauling service operator of Blawnox, Pa. operates 2 Fageol Vans regularly between Pittsburgh and other Pennsylvania and Ohio cities.

Fageol Van's superior maneuverability and handling ease draw enthusiastic praise from Robert K. Blackburn, contract mail hauling service operator.

Says Mr. Blackburn:—"Where 4 or 5 turns were formerly necessary to position a cab-over-engine unit for loading at Pittsburgh, we now make a 'U' turn with the Fageol and are ready to load."

Mr. Blackburn also advises that his Fageol Vans give more miles to the gallon, reduce tire and brake service costs . . .

And, he sums up his impressions of his Fageols—"Integral design of the Fageol Van, which offers more payload space in a unit of far less weight, has resulted in less wear and tear on my equipment and drivers, thus decreasing my out-of-service-for-repairs time and my operating expenses." A-9173

INTERNATIONAL HARVESTER

***FAGEOL VANS** manufactured by the Twin Coach Company, Kent, Ohio, are sold by all International Dealers and Branches.*

for information, write to

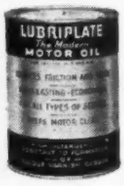
INTERNATIONAL HARVESTER MOTOR TRUCK SALES DEPT.
180 NORTH MICHIGAN AVENUE • CHICAGO 1, ILLINOIS

"THIS LUBRICANT EXTENDED BEARING LIFE 50%"

—says REPUBLIC AVIATION CORP.
Makers of the famous F-84E THUNDERJET

"Under actual tests, LUBRIPLATE extended bearing life fifty per cent or better as compared to other lubricants. It was also found that, during test, LUBRIPLATE increased efficiency of machines twenty per cent by reducing friction loss. Republic has been using LUBRIPLATE successfully for the past eight years."

REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE GREASE AND FLUID TYPE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE COSTS.



LUBRIPLATE is available in grease and fluid densities for every purpose... LUBRIPLATE H. D. S. MOTOR OIL meets today's exacting requirements for gasoline and diesel engines.

For nearest LUBRIPLATE distributor see Classified Telephone Directory. Send for free "LUBRIPLATE DATA BOOK"... a valuable treatise on lubrication. Write LUBRIPLATE DIVISION, Fiske Brothers Refining Co., Newark 5, N. J. or Toledo 5, Ohio.

September News Roundup

Continued from Page 218

whether driving is done within or without the state. After 12 hours duty, the driver must have at least eight consecutive hours off duty. Drivers are required to carry N. J. approved logs.

New York: Appellate Division, New York Supreme Court, has ruled that the state has a tax lien priority for its weight-distance tax on repossessed vehicles, whether the tax is due on the operation of the particular vehicles in question or not.

New York is also reminding fleet operators that mileage tax permits and plates presently in use on vehicles over 18,000 lb GVW expire on Dec. 31, 1954. New permits and plates, at $2 per vehicle, must be used on or after Jan. 1, 1955.

Safety Awards

Fleets awarding their outstanding, safe drivers this past month include:

Cleveland Transit System, Cleveland, Ohio—to 392 bus and trackless trolley operators. Ninety-five have records of seven years.

Herr's Motor Express, Quarryville, Pa.—to 22 drivers. Their total accident-free record equals 1.25 million miles.

E & L Transport Co., Dearborn, Mich.—to 115 drivers. Combined record represents nearly nine million miles and 271 years of safe truck driving.

System Tank Lines, Portland, Ore. —to 15 drivers. Eight have records of five years or more of accident-free driving.

Interstate Motor Lines, Inc., Salt Lake City, Utah—to 136 drivers. Accident-free total of the drivers is 482 years and 43,380,000 miles.

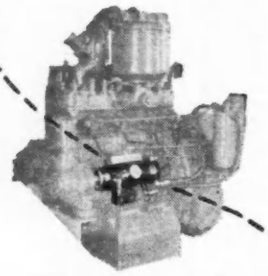
Eastern Motor Express, Inc., Terre Haute, Ind.—to 36 Indianapolis, Ind. terminal drivers. Total record is 103 years of no-accident driving.

National Homes Corp., Lafayette, Ind.—to 65 drivers. All received silver pins and three of the drivers were presented with engraved wrist watches.

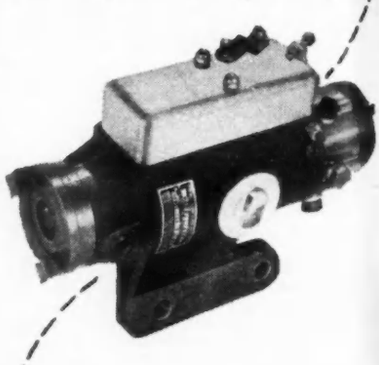
Wm. Scluderberg—T. J. Kurdle Co. (Esskay), Baltimore, Md.—to 41 drivers. One has a 24-year record. The fleet also just won its 12th Baltimore Safety Council award since 1941.

Akers Motor Lines, Inc., Gastonia, N. C.—to 22 Atlanta, Ga., terminal drivers. The fleet also won the Trailmobile ATA Safety Contest for North Carolina.

Buying A New Diesel?



look for this **revolutionary** new fuel injection pump



It's Roosa Master—the modern fuel injection pump. Simple ... compact ... light-weight ... and extra easy to service ... Roosa Master offers performance-proven life and trouble-free fuel injection for all major types of high speed diesel engines.

Perfected after 15 years of engineering research and extensive field experience, Roosa Master is manufactured by Hartford Machine Screw Company, one of New England's leading manufacturers of precision machined products, and backed by a 75-year-old tradition of integrity and dependabie customer service.

For the complete facts, write to Hartford Machine Screw Company, Hartford 2, Connecticut, or consult your engine manufacturer.

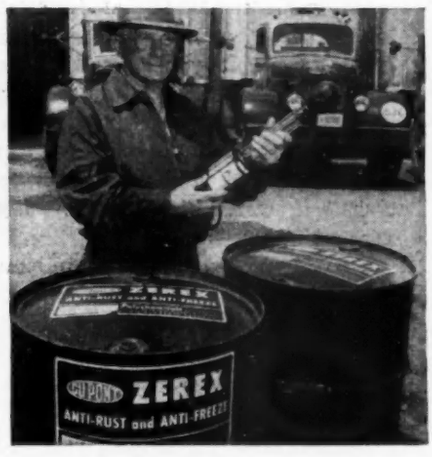
ROOSA MASTER
THE MODERN FUEL INJECTION PUMP

makes good diesels **better!**

How pre-mixed Du Pont "ZEREX" anti-freeze saves us time, money and trouble

W. W. Cutaiar, Sr., owner, Mushroom Transportation Co., Inc., Kennett Square, Pa., tells how he saves time; avoids costly operational downtime. Since 1920 Mr. Cutaiar has built up his business from six trucks carrying mushrooms to today's fleet of over 500 units. This fleet includes tractors, trailers and "straight jobs" hauling freight of all kinds.

"We take no chances anytime, but we're especially careful about winter weather," says "Dad" Cutaiar. "Truck radiators cost money . . . we'd be foolish not to protect them with the best-quality anti-freeze we can lay our hands on. That's why we use Du Pont 'Zerex' exclusively. We pre-mix it with water to the desired protection; use it for one season only. All radiators are flushed in the spring."



"Think of the time we'd lose if we had to hydrometer-check every vehicle. What a waste of anti-freeze if we had to open gallon cans and pour them one at a time! But, because 'Zerex' can be pre-mixed safely, we buy it in drums, pre-mix with water, take one reading per drum, and winterize the whole fleet." It's the non-oily chemical inhibitor in "Zerex" that makes pre-mixing possible. It *stays* in solution—won't separate while standing.

"Installing pre-mixed 'Zerex' is a fast and simple operation. No figuring protection proportions, radiator capacities. No need to keep count of gallon cans emptied, and you don't have to run the motor to mix the solution. All we do is drain and refill the cooling system." Mr. Cutaiar is proud of his firm's record of prompt operations even in zero weather and gives much of the credit to Du Pont "Zerex" anti-freeze.

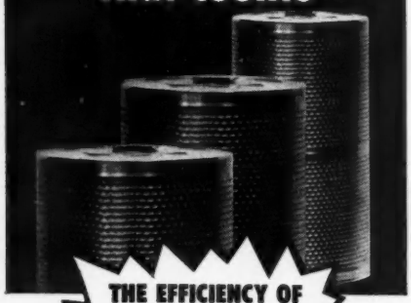
Order your "ZEREX" now!

For convenience and economy, get it in 54-gallon drums from your "Zerone"-"Zerex" distributor.

DU PONT
ZEREX
REG. U. S. PAT. OFF.
Anti-Rust ANTI-FREEZE

BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

it's what's inside that counts



THE EFFICIENCY OF
Luber-finer
PATENTED PROCESS
PACK
HAS NEVER BEEN EQUALLED

STANDARD of the INDUSTRY SINCE 1936

DON'T BE MISLED BY PRICE ALONE!

There is no substitute for DIESELPAK'S Patented Filtering Process for H.D. Compounded oils AT ANY PRICE. The DIESELPAK cleans more oil faster—keeps it CLEAN longer—and gives more service and better engineered protection than any other filtering element. It PAYS to get the BEST!

√ Protects engine
The DIESELPAK is designed to remove not only ABRASIVES but also CONTAMINANTS such as moisture, carbon, acid, etc., from oil, and is engineered to keep the filtering media and the removed contaminants from migrating back into engine.

√ Extends periods between drains
The DIESELPAK collects and holds even the most finely dispersed contaminants without affecting or removing compound additives from the oil. A glance at the dip stick will show that the oil is CLEANER—symbol of better lubrication and longer oil life enjoyed only by Luber-finer users.

√ Takes less oil
The DIESELPAK because of its engineered construction requires 2 to 4 quarts less oil than spongy substitute filter elements being offered for use in the Luber-finer housing. This is an additional saving enjoyed when using the DIESELPAK.

LUBER-FINER PACKS AVAILABLE:

1. REFINING PACK—Introduced to the public in 1935 for use with straight mineral oils, fuel oils, hydraulic oils, and inhibited industrial oils.

2. DIESELPAK—First made available in 1941, the DIESELPAK was primarily designed for use with H. D. detergent compounded oils and has also achieved outstanding results when used with fuel oils and straight mineral oils.

Write for complete information to Dept. 11

LUBER-FINER, Inc.
2514 S. Grand Ave., Los Angeles 7

How Public Are Your Relations?

Continued from Page 71

various elements of the trucking industry, the panel recommended that a TTMA Committee be appointed to investigate ways in which all groups in the highway transportation field can work more closely together in their public relations effort. The successful groundwork that the trailer manufacturers have already done in this regard is indicated by the extraordinary representation of *other* association personnel who attended the convention and participated in the panel discussion as indicated above.

Some direct examples of how this type of public relations could pay off were cited by various panel members. They included state and national truck roadeos, Truck Transportation Week and regional or national truck and equipment shows.

Since termination of the TTMA meeting, COMMERCIAL CAR JOURNAL has learned that a Public Relations Liaison Committee has already been appointed; that it will immediately institute a survey among other associations, looking toward greater coordination of public relations activity; that it will hold a meeting at the time of the American Trucking Associations' convention in New York and that it will report back to the trailer manufacturers at their winter meeting in January.

Textbook, Radio, Movie

Other projects discussed and recommended by the panel included the preparation of a trailer textbook, full investigation of the possibilities of radio spot announcements, plans for an animated exhibit and the possibility of a trailer industry movie.

In discussing the textbook it was suggested that it not only brief the history of truck-trailer transportation but also include a definite section on "use information" which would be valuable to salesmen and others in the industry as well as to students and the general public. It was assumed that the text would attempt to "sell" the entire highway transportation industry as well as the part that truck trailers play.

A pre-planned radio script was presented as a part of the panel discussion and it is hoped that these spot announcements, containing pertinent facts about the trucking industry, can be used by radio stations throughout the country, particularly in connection with the now-popular traffic reports which so many stations are supplying for the benefit of their mobile audience. It was also suggested that taped recordings of interviews with public officials be explored to the fullest extent.

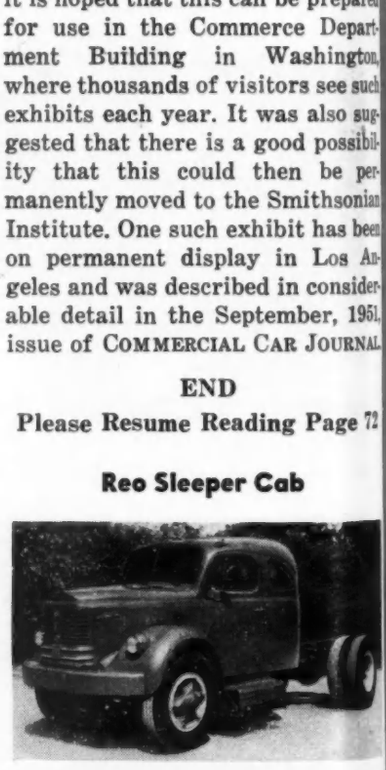
Animated Display

The idea of an animated display drew much favorable comment and it is hoped that this can be prepared for use in the Commerce Department Building in Washington, where thousands of visitors see such exhibits each year. It was also suggested that there is a good possibility that this could then be permanently moved to the Smithsonian Institute. One such exhibit has been on permanent display in Los Angeles and was described in considerable detail in the September, 1951, issue of COMMERCIAL CAR JOURNAL.

END

Please Resume Reading Page 72

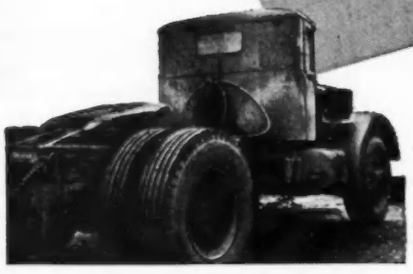
Reo Sleeper Cab



Production of this new sleeper cab has been announced by Reo Motors, Inc., Lansing, Mich. It requires a wheelbase 25 in. longer than standard; however, the resulting CA dimension is the same. For example, says Reo, a 155-in. wheelbase with sleeper cab still has a CA of 65⅝ in. Weight is about 550 lb more than a standard cab.

60° COOLER RUNNING

This is the "Air-Conditioned" HEAVY TREAD TIRE truckers are talking about



SEIBERLING THRU-WAY 125

Here is what C & T HAULAGE, Inc., Newburgh, New York, said:

"Our first set of Thru-Ways have over 25,000 miles on them and show very little wear. In addition to the apparent fine mileage we will receive, the drivers are very enthusiastic and loud spoken about the excellent traction they get with these tires under adverse driving conditions.

"Our complete satisfaction is best indicated by our now having over 75 of these tires in hard, continuous service."

There's a lot to be said for this radically new tire and truckers are enthusiastic in saying it. What they're talking about is this:

THRU-WAY 125 can be used where other heavy tread tires fail due to heat build-up and tread separation. The Thru-Way is "air-conditioned" by Seiberling HEAT VENTS and undercut side-bars . . . is up to 60° cooler running!

THRU-WAY 125 is an all-wheel tire that gives you exactly what you want in each wheel position: easy steering . . . sure traction . . . safe non-skid . . . and mileage like you've never had before.

Try Thru-Way 125 tires yourself. You'll like them. Choice of nylon or rayon in popular sizes. See your Seiberling dealer.

SEIBERLING

AKRON, OHIO • TORONTO, CANADA

FREE!

SEIBERLING TRUCK TIRE MILEAGE COST FINDER

SEIBERLING RUBBER COMPANY, Akron 9, Ohio

Dear Sirs: Please send me, without obligation, a Seiberling Truck Tire Mileage Cost Finder that shows truck tire cost-per-mile at a glance.

Name _____

Firm Name _____

Street Address _____

City _____ *State* _____

Safeguard fleet vehicles . . . in roadside emergencies

with KILGORE

INTERNATIONAL FUSEES

Dependable, all-weather Kilgore Fusees warn of disabled cars and trucks, prevent accidents, injuries, liabilities. Put a Kilgore safety-pack in every fleet vehicle. 3 high-candlepower red fusees in box. Each burns 15 minutes, bright enough to change a tire. Meet insurance, state, police regulations. ICC, UL, Bureau of Explosives, RR-approved. *Not subject to spontaneous combustion.*

KILGORE, INC.
INTERNATIONAL FLARE SIGNAL DIVISION
WESTERVILLE 1, OHIO

Cummins New PT Fuel System

Continued from Page 83

injectors has been greatly simplified. With the metering function now in the injector, the once complicated fuel pump has become simply a source of fuel pressure with a pressure regulator, throttle control, governor control, and "start-stop" control serving to restrict the flow of fuel and so varying the fuel pressure at the metering orifice.

Camshaft Timed

Injector plungers are operated from lobes on the main engine camshaft and control the timing of the engine. Since the timing is controlled by the engine camshaft, this system need not be timed to the engine.

The PT Fuel System has only 13 per cent of the bulk of the Cummins distributor type fuel pump introduced in 1932. Weight of the PT Fuel System is only 13 lb as compared to 104 lb for the earlier pump. The total number of parts in the PT Fuel System has been reduced to 182 as compared to 415 in the former disc type pump.

Briefly, the new Cummins PT Fuel System operates as follows:

A gear pump picks up the fuel from the fuel tank, creating the basic fuel pressure for the system. This pressure is then controlled by a pressure regulator which is designed to control the maximum pressure in the system and give the proper torque and horsepower characteristics. The fuel pressure from this regulator is controlled by a very simple throttle control valve, a simple governor control valve, and an "on and off" shutdown valve.

From this point the fuel flows from the fuel pump to a common manifold leading to each of the injectors located in the engine cylinder head. The pressure from the fuel pump is applied to the metering orifice in the injectors and depending upon the pressure in the manifold more or less fuel is metered through the orifice into the injector cup.

At the proper time for firing, the injector plunger is forced down by the action of a cam on the main engine camshaft, forcing the metered fuel through the spray holes in the injector cup.

Equal Fuel Charge

Since all injectors are connected to the common manifold, all receive the same pressure and equal charges of fuel are injected into each of the engine's cylinders, assuring that each cylinder develops equal power without the necessity for individual adjustment of each injector.

END

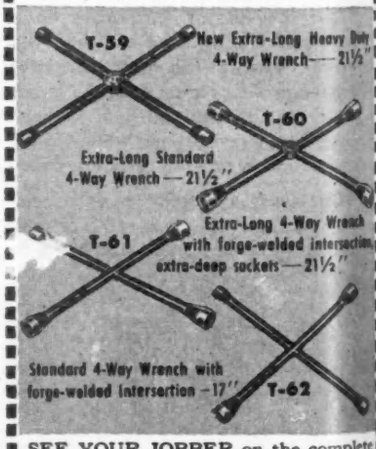
Please Resume Reading Page 83

GUARANTEED FOR LIFE AGAINST BREAKAGE!

Quality Passenger Rim Wrenches by

KEN-TOOL

Preferred by tire repair men everywhere for their proven superiority and long life. Insist on these stronger, tougher, longer-lasting wrenches—hot-forged from chrome nickel alloy steel, with two ¾" sockets for double life!



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